Ichnology Newsletter

Murray K. Gingras and Shahin E. Dashtgard, Coeditors

Including the Bibliographia Ichnologica 2005-2006
with complementary data since 1990

Alfred Uchman and Andrew K. Rindsberg

Number 27
August 2006

Published August 2006 in Edmonton, Alberta

Subscription information

This newsletter is made available for free online. If you wish to have a hardcopy and cannot print one yourself, then please contact one of the editors and we will supply to you a printed copy at cost plus delivery.

Murray K. Gingras
Earth and Atmospheric Science, 1-26 Earth Science Building, University of Alberta, Edmonton, Alberta CANADA, T6G 2E3, Phone +1-780-492-1963, mgingras@ualberta.ca

Shahin E. Dashtgard
Alberta Geological Survey, Fourth Floor Twin Atria Building, 4999-98 Avenue, Edmonton, Alberta CANADA, T6B 2X3, Phone +1-780-427-9937, sdashtgard@gmail.com

CONTENTS

Cover: Various arthropod burrows descending from a mangrove-rooted bedding plane. The locale is Wadi el Fayum (Whale Valley) in Egypt. The strata are Eocene and of the Birket Qarum Formation.

Letter From the Editors:

Welcome back to the Ichnology Newsletter! For starters, Shahin and I are pleased to present the IN in its new digital format. We have chosen to "go digital" to make the newsletter more widely available and thereby fan the flames of ichnointerest. This essentially eliminates production costs and may permit timely circulation of the IN.

For starters we thank Andrew K. Rindsberg and Alfred Uchman for continuing to provide to us the Ichnology Bibliography. It remains the most useful component of the newsletter and we are sincerely glad we DON'T have to compile all of the new ichnological references.

Volume 27 is the first issue of the IN since 2004. Since that time several ichnologists have changed their place of employment. From a Canadian point-of-view, which Shahin and I naturally take, we are especially pleased to welcome Luis Buatois, Stephen Hubbard, Gabriela Mangano, and Duncan McIlroy to the land of the maple leaf.

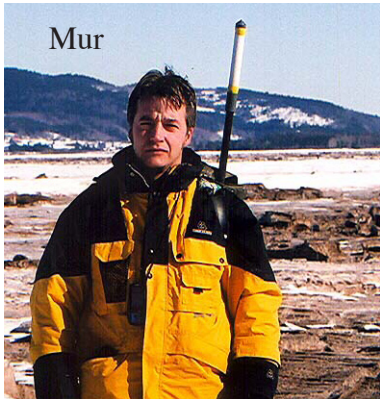
Sadly Roland Goldring, the senior British ichnologist, died on August 30th 2005. This issue is dedicated to his memory and we report on Biotic – Sediment Interactions, a symposium held in memory of Roland Goldring (organised by Dan Bosence, Peter Allison and Heather Browning) at the University of Reading in July, 2006. The entire community misses Roland's kind manner, quick humor and scientific acumen.

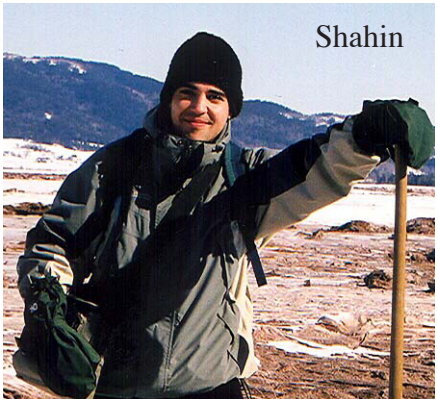
As you will see in this volume, ichnology as a science continues to grow in new directions. Microichnology, reservoir ichnology, and continental ichnology are persistent areas of growth. Also paleoecological analysis and ichnological taxonomy continue to thrive as applied and growing subdisciplines within ichnology. More and more sedimentology and ichnology are seen as extremely complimentary and sedimentologists the world over are more knowledgable of ichnology than ever before. Ichnology has come a long ways.

You will notice that the new IN is a little more photo-heavy than earlier issues. The new format permits us easy sharing of colour images, so why not? We would also love to include more whimsy material, ESPECIALLY ichnopoetry: please help. To those of you who contributed to this volume, we thank you for helping us present a mosaic of current research and events in the ichnological community. To those of you who read the IN, thank you for supporting this endeavor and please consider submitting your own article, event, or research update for next time. Issue 28 will arrive in the fall of 2007.

Our Best Regards

Murray Gingras and Shahin Dashtgard





REMEMBERING ROLAND GOLDRING

(1928 – 2005) by John Pollard

The ichnological community worldwide was shocked and saddened by the sudden death of Roland Goldring on August 30th 2005 from a heart attack while cycling in Reading. For over 50 years Roland had researched and published in the fields of palaeontology, sedimentology, taphonomy and ichnology at localities in many countries on rocks from Precambrian to Pleistocene in age.

Roland was born in London on June 28th 1928, but grew up in the North Devon coastal town of Westward Ho! near the Devonian and Lower Carboniferous rocks on which he later began his research! After schooling in London and post-war army service, Roland initially trained as an architect for a year, perhaps developing his drafting skills so evident in his distinctive and clear line drawings! He entered Bristol University in 1949, graduating with an Honours B.Sc. in Geology in 1952 and proceeded to Ph.D. research (1952 – 1955) on palaeontology and stratigraphy of the Devonian and Carboniferous rocks of the North Devon coast under the supervision of Professor Scott Simpson. In 1955-56 Roland held a post-doctoral research associateship jointly between universities of Bristol and Frankfurt am Main. As a rare British worker in Germany at that time he met many of the leaders of the research schools at Frankfurt and Wilhelmshaven, such as Rudolf Richter, Walter Häntzschel, Wilhelm Schäfer, and younger workers Dolf Seilacher and Hans-Eric Reineck, becoming familiar with the new concepts of sedimentology, aktuogeology and aktuopalaeontology. Much of Roland's early palaeontological work on Upper Devonian and Lower Carboniferous trilobites and brachiopods was published in German journals and later in the early issues of *Palaeontology.*

In 1956 Roland took up the post of assistant lecturer at St Andrew's University, Scotland, then in 1959 he was appointed to a lectureship at Reading University. The Geology Department there was well established and under the leadership of Professor Percy Allen, who developed the new field of sedimentology and in 1962 new sedimentology laboratories were opened at Reading as the Postgraduate Research Institute of Sedimentology (P.R.I.S.) with oil company sponsorship. Roland's research and teaching interests fitted in well with this environment and in 1962 he published his first paper on ichnology, "Trace fossils of the Baggy Beds of North Devon" which became a classic much cited study as it combined the use of trace fossils with sedimentology of shallow marine sandstones. He continued to research these fields for the next four decades. At the opening of P.R.I.S Roland invited Dolf Seilacher to give an inaugural address on his scheme of ichnofacies and also a subsequent lecture to the Palaeontological Association at the Geological Society on the behaviour of trilobites deduced from trace fossils to a fascinated audience! This had a major impact on the introduction of trace fossils to British palaeontologists (See Ichnology Newsletter 22, 40-45).

During the 1960s Roland continued to research and publish on trace fossils and shallow marine sandstones, visiting Australia to examine the Ediacara Series and making a collection of fossils which is still being researched today. Roland's interest on use of trace fossils in Precambrian/ Cambrian boundary studies continued into 1990s in Charnwood Forest, U.K. and Mongolia! Ichnology and sedimentology papers varied from reviews on deltaic and shallow marine deposits to limulid undertracks and burrowing of *Micraster* in the Chalk presented at the First International Trace Fossil Meeting, Liverpool 1970, and published in the landmark volume *Trace Fossils*. In 1969 Roland visited the U.S.S.R. for six weeks on behalf of the Royal Society to meet Professor R.F. Hecker and report on the state of palaeontology and sedimentology in the U.S.S.R. He was one of the first British geologists to visit Russia in that part of the cold war period.

In 1971 Roland's classic Geological Society Memoir 5 (81pp.) on "Sedimentology of the Baggy Beds" was published. During the 1970s his research fields broadened, as although he continued some work on Devonian rocks and trace fossils including hardgrounds in Russia and Poland and storm deposits in Germany, Devon and New York State, U.S.A., he moved into the study of Tertiary estuarine sedimentation and ichnofaunas in southern England with his students at P.R.I.S. In this decade he received the Lyell Fund of the Geological Society (1970), served for nine years as an editor of *Palaeontology* (1966 -1975) and Vice-President of the Palaeontological Association (1973-75).

In 1980 Roland organised a very successful Review Seminar for the Palaeontological Association on trace fossils (marine – Crimes; hardgrounds – Goldring; nonmarine – Pollard) which raised the profile of ichnology in the U.K. As well as joint papers on ichnology of flysch and event beds in early 1980s, Roland applied his technique of studying trace fossils cut in vertical section, first used in analysis of *Diplocaterion yoyo* from the Baggy Beds, to the origin of *Cruziana.* He clearly demonstrated the intra- stratal origin of many Ordovician examples.

For much of the 1980s Roland was preparing his textbook *Fossils in the Field* (1991), writing, drafting, trying out field and laboratory exercises with his students. This book, which presented his unique perspectives on integration of fossils and sediments, taphonomy, careful field analysis and application of fossil data, was initially commissioned for a series of Geological Society Field Handbooks, but once written was rejected as " not true palaeontology"! Undaunted, Roland found another publisher with such success that a second edition was needed only eight years later (1999).

By the late 1980s Roland's reputation as an ichnologist and sedimentologist led to him becoming involved in the analysis of trace fossils and bioturbation in the wealth of hydrocarbon cores obtained from North Sea oilfields and preparation of an atlas of ichnofabrics of the Fulmar Formation for a major oil company. This fed his enthusiasm for ichnofabric analysis and development of such new

techniques as the "ichnofabric constituent diagram" (I.C.D.) and a series of papers and presentations at symposia. Roland organised several trace fossil symposia (Palaeontological Association, Reading 1980; International Palaeoecological Congress, Lyons 1983; Lyell Meeting, London 1992) and he attended most of the International Ichnofabric Workshops between 1991 – 2003 (See photograph).

Despite his retirement from his academic post as Reader in Geology at University of Reading in 1993 Roland remained there as a Research Fellow, extremely enthusiastic and active in ichnology. In total he published 28 papers in 1990s, including ichnology of Mesozoic and Tertiary rocks in England, Precambrian/Cambrian of Mongolia, nonmarine Jurassic of China and Cenozoic of Malta. He also developed and applied his teaching skills and the uses of ichnofabric analysis, particularly assisting in short courses taught to the oil industry in U.K., France, Norway and even Saudi Arabia. This unabated enthusiasm continued into the 21st century with a further 14 papers published between 2000-2006, including 7 papers in press at the time of his death. The respect, esteem and affection in which Roland is held by the ichnological community is reflected in the dedication to his memory of the forthcoming book on state of the art of ichnology entitled "*Trace fossils: concepts, problems and prospects*" (Editor William Miller, Elsevier 2007). It contains two chapters he co-authored.

Roland Goldring will be remembered by all as a quiet, loyal friend, especially interested and helpful in the work and ideas of others, be they senior colleagues or new or overseas students. Just a couple of years ago he saw through the press a paper on a submarine slide in Devonian rocks of North Devon, which he had assembled from the thesis of a deceased Ph. D. student and co-worker now in Far East. His devotion to the rocks of North Devon never ceased and he had planned to take a field excursion there in September 2005.

The legacy of more than 80 papers, published over five decades truly reflects Roland's original perspectives and often inspired contributions to diverse topics in fossil- sediment relationships, especially in the field. We greatly miss his idiosyncratic ways and wise counsel but are most grateful for his friendship and scientific contributions, as expressed by participants at the Goldring Memorial Symposium "Biotic – Sediment Interactions" held at Reading University in July 2006 and subsequent publication.

John E. Pollard

School of Earth, Atmospheric and Environmental Sciences, University of Manchester, Manchester M13 9PL, UK

Roland (2nd left) relaxing with Tony Ekdale, Tom Mason, Jim Buckman at International Ichnofabric Workshop III July 1995, Limensgade Mill, Bornhom, Denmark. (Roland is wearing the 'detested'(!) workshop T-shirt over his white shirt with sleeves rolled up, his individual style!)"

Between July 20 and 28, 2006 **Biotic – Sediment Interactions: A symposium in memory of Roland Goldring (1928-2005)** was enjoyed by several of Roland's colleagues, protégés, and admirers. It was a superb meeting with many fascinating talks. All of the speakers shared a memory of Roland with each talk, so it was a very poignant get together.

The meeting was organised by Dan Bosence, Peter Allison and Heather Browning and held at the University of Reading. The meeting was sponsored by Ichron, The Palaeontological Association and BG Group.

The proceedings were as follows with a field trip to see Cretaceous rocks of the Weald, SE England held at the end of the meeting.

Clive McCann: Roland Goldring; a personal appreciation

John Pollard: Roland Goldring; His scientific contributions

Biomats, biofilms, and bioglue as preservational agents for arthropod trackways; *Dolf Seilacher*

Early Animal Evolution and Palaeoecology: Across the Great Divide; *David Bottjer*

When lines begin to blur: evidence from the Precambrian fossil *Dickinsonia; Jonathan Antcliffe & Martin Brasier*

The earliest small shelly fossils preserved in a Lower Cambrian pyrite lagerstätte; *Richard Callow, & Martin D. Brasier*

Taphonomic windows and molluscan preservation; *Paul Wright, James Wheeley & Lesley Cherns*

Community preservation and fidelity of facies in present-day, peritidal skeletal carbonates, South Florida*; Dan Bosence*

Quaternary highstand carbonates from Western Australia: shoreline and reefal facies; *Maurice Tucker*

Biogenic Chaos: The preservation of sedimentary structures; *S. George Pemberton, James A. MacEachern, Murray K. Gingras, & Thomas D.A. Saunders*

Landscape ecology of the *Skolithos* piperock: pseudofractals as estimators of ecospace disturbance and metapopulation dynamics*; Carlos Neto de Carvalho & Mário Cachão*

How Fast do invertebrates burrow? *Murray Gingras, S. George Pemberton, Shahin Dashtgard,& Lynn Dafoe*

Ammonite Lagerstatten and eustatic sea-level rises in the Lias of southern UK and beyond*; Peter A. Allison, Carl E. Brett, Christopher R. C. Paul &* Kevin Page

Seafloor erosional processes as recorded in ammonite filled guttercasts from the Early Jurassic, Blue Lias Formation (central England); *Jonathan D. Radley*

Ophiomorpha irregulaire, Mesozoic trace fossil that is either well understood and rare in outcrop, or poorly understood but common in core? *Richard Bromley & Gunver K. Pedersen*

Modes of preservation of spatangoid burrows with special emphasis on intensely-bioturbated *Bichordites* ichnofabrics in the Bateig Calcarenites (Miocene, SE Spain; Jordi M. de Gibert

Age and Origin of Maltese hardgrounds and firmgrounds*; Michal Gruszczynski, Max Coleman, Roland Goldring, Jim Marshall, & Elzbieta Gazdzicka*

Linking trace-making biota and palaeosols to processes that control organism behaviour and environmental variability: Ichnopedologic associations and the continental realm; *Stephen T. Hasiotis*

New arthropod trace fossils from the Westphalian rocks of Lancashire, UK.; *John Pollard, Paul Selden & Stephen Watts.*

An integrated sedimentological and ichnological analysis of an arenaceous unit in the Mercia Mudstone Group, east Devon, U.K; *Richard J. Porter & Ramues W. Gallois*

Preservation of a new species of silky lacewing (Insecta: Neuroptera: Psychopsidae) from the English Wealden (Early Cretaceous) with a critical review of other fossils referable to this family*; Edmund A. Jarzembowski and Vladimir N. Makarkin*

John Pollard also contributed the following publication list for Roland Goldring. It is an amazing list that shows well the range of his work:

1952 Goldring, R. Geological maps of North Devon and West Somerset. *Proceedings of the Bristol Naturalists' Society*, **28**, 351-353.

1955 Goldring, R. The Upper Devonian and Lower Carboniferous trilobites of the Pilton Beds in North Devon, with an Appendix on goniatites of the Pilton Beds. *Senckenbergiana Lethaea,* **36**, 27-48.

1955 Goldring, R. Some notes on the cardinal process in the Productidae. *Geological Magazine*, **92**, 402-412.

1957 Goldring, R. The last toothed Productellinae in Europe. *Paläontologisches Zeitschrift*, **31**, 207-228.

1957 Goldring, R., Stubblefield, C.J. *Brachymetopus (Brachymetopus)* and *B. (Brachymetopina)* (Trilobita, Devonian to Upper Carboniferous). *Geological Magazine*, **94**, 421-424.

1957 Goldring, R. *Pseudophillipsia* (Tril.) from the Permian (or Uralian) of Oman, Arabia. *Senckenbergiana Lethaea*, **38**, 195-210.

1958 Goldring,R. Lower Tournaisian trilobites in the Carboniferous Limestone facies of the south-west province of Great Britain and of Belgium. *Palaeontology*, **1**, 231-244.

1960 Amos, A.J., Campbell, K.S.W., Goldring, R. *Australosutura* gen.nov. (Trilobita) from the Carboniferous of Australia and Argentina. *Palaeontology*, **3**, 227-236.

1962 Goldring, R. The Bathyal Lull: Upper Devonian and Lower Carboniferous sedimentation in the Variscan Geosyncline. *In:* Simpson, S. (ed.) *Some aspects of the Variscan Fold Belt*, Manchester University Press, 75-91.

1962 Goldring,R. The trace fossils of the Baggy Beds (Upper Devonian) of North Devon, England. *Paläontologisches Zeitschrift*, **36**, 232-251.

1963 Goldring, R., Eagar, S.H., Sarjeant, W.A.S. Tree-rafted Chalk fragments from the London Clay. *The Reading Naturalist*, **15**, 30-31.

1964 Goldring, R. Trace-fossils and the sedimentary surface in shallow-water marine sediments. *In*: Van Straaten, L.M.J.U. (ed.) *Deltaic and shallow marine deposits,* Elsevier, Amsterdam, 136-143.

1965 Goldring, R. Sediments into Rock, *New Scientist*, 863-865.

1966 Goldring, R. Sandstones of sublittoral (neritic) facies. *Nature*, London, **210**, 1248-1249.

1967 Goldring, R. *Cyclus martinensis* sp. nov. (Crustacea) from the Upper Visean of the Mendip Hills, England. *Palaeontology*, **10,** 317-321.

1967 Goldring, R., Curnow, C.N. The stratigraphy and facies of the late Precambrian at Ediacara, South Australia. *Journal of the Geological Society of Australia*, **14**, 195-214.

1967 Cowie, J.W., Dean, W.T., Goldring, R., Rolfe, W.D.I., Rushton, A.W.A., Temple, J.T., Tripp, R.P. Arthropoda: Proarthropoda and Trilobitomorpha. *In*: Hughes, N.F. (ed.) *The Fossil Record*, Geological Society of London, 479-497.

1967 Downie, C., Fisher, D.W., Goldring, R., Rhodes, F.H.T. Miscellanea. *In*: Hughes, N.F. (ed.) *The Fossil Record,* Geological Society of London, 613-626.

1967 Goldring, R. The significance of certain trace-fossil ranges. *In*: Hughes, N.F. (ed.) *The Fossil Record*, Geological Society of London, 37-39.

1968 Goldring, R., House, M.R., Selwood, E.B., Simpson, S., Lambert, R.St.J. Devonian of Southern Britain. *In*: Oswald, D.H. (ed). *Devonian of the World*. International Symposium Devonian System, Calgary. 1967, 1-14.

1969 Goldring, R. Criteria for recognizing Pre-Cambrian Fossils. *Nature*, **223**, 1076.

1969 Goldring, R. Evolution in environments. *New Scientist, **44**,* 141-143.

1970 Goldring, R. The stratigraphy about the Devonian-Carboniferous boundary in the Barnstaple area of North Devon, England. *In*: Stubblefield, C.J. (ed.) *Compte Rendu 6e Congres Internationale Stratigraphique Carbonifere*, Sheffield, 1967. **2**, 807-816.

1970 Goldring, R., Stephenson, D.G. Did *Micraster* burrow? *In*: Crimes, T.P. & Harper, J.C. (eds.) *Trace Fossils* , Seel House Press, Liverpool, 179-184.

1971 Goldring, R. Evolution in Environments. *In*: Gass, I.G. (ed.) *Understanding the Earth,* Artemis Press, 157-161.

1971 Goldring, R. Shallow-water sedimentation as illustrated in the Upper Devonian Baggy Beds. *Memoir of the Geological Society of London*, **5**, 1-88, 12 plates.

1971 Goldring, R., Seilacher, A. Limulid undertracks and their sedimentological implications. *Neues Jahrbuch für Geologie und Paläontologie, Abhandlungen*, **37**, 422-442.

1972 Goldring, R., Stephenson, D.G. The depositional environments of three Starfish Beds. *Neues Jahrbuch für Geologie und Paläontologie, Monatsheft*, Jahrgang 1972, 611-624.

1973 Goldring, R., Bridges, P. Sublittoral Sheet Sandstones. *Journal of Sedimentary Petrology*, **43**, 736-747.

1974 Goldring,R., Kazmierczak, J. Ecological succession in intraformational hardground formation. *Palaeontology*, **17**, 949-962.

1978 Kazmierczak, J., Goldring, R. Subtidal flat-pebble conglomerate from the Upper Devonian of Poland: a multiprovenant high-energy product. *Geological Magazine*, **115**, 359-366.

1978 Goldring, R., Bosence, D.W.J., Blake, T. Estuarine sedimentation in the Eocene of southern England.

Sedimentology, **25**, 861-876.

1978 Goldring, R., Tunbridge, I.P., Whitaker, A., Williams, B.J. 'Baggy Sandstones', North Devon. *In*: Scrutton, C.T. (ed.) *Field Guide to selected areas of the Devonian of South-West England.* International Symposium on the Devonian System (P.A.D.S.78) September 1978, 21-25.

1979 Goldring, R., Langenstrassen, F. Open shelf and near-shore clastic facies in the Devonian. *Special Papers in Palaeontology,* **23**, 81-97.

1981 Crimes, T.P., Goldring, R, Homewood, P., Van Stuijvenberg, J., Winkler, W. Trace fossil assemblages of deep-sea fan deposits, Gurnigel and Schlieren flysch (Cretaceous-Eocene), Switzerland. *Eclogae geologica Helvetica*, **74**, 953-995.

1982 Goldring, R., Aigner, T. Scour and fill: the significance of event separation. *In*: Einsele, G., Seilacher, A. (eds.) *Cyclic and event sedimentation*. Springer, 354-382.

1985 Goldring, R. The formation of the trace fossil *Cruziana. Geological Magazine,* **122**, 65 -72.

1985 Goldring, R. Fossil Lagerstätten. *Philosophical Transactions of the Royal Society, London,* **B 311**, 25-26.

1987 Bland, B.H., Evans, G, Goldring, R. Mourant, A.E., Renouf, J.T., Squire, J.T. Supposed Precambrian trace fossils from Jersey, Channel Islands, *Geological Magazine*, **124**, 173.

1987 Goldring, R., Ali, O.E. Corallian reefs, Stanford Quarry, Oxfordshire. *In*: Riding, R.(ed.). Excursion Guide to 4th International Symposium on Fossil Algae, Cardiff, July 1987.

1988 Goldring, R., Pollard, J.E. *Atlas of Trace Fossils and Ichnofabric Analysis of the Fulmar Formation in the Central North Sea*. 2 volumes, 54 plates. (For Shell UK Exploration and Production , London).

1990 Goldring, R. Excursion B. Sedimentology of Aptian (Lower Cretaceous) deposits of the Faringdon - Baulking Trough. *In:* Allen J.R.L. (ed.). Excursion guide B.S.R.G. Annual Meeting, Reading, December 1990, 23-29.

1991 Goldring, R., Pollard, J.E., Taylor, A.M. *Anconichnus horizontalis:* a pervasive ichnofabric-forming trace fossil in post-Palaeozoic offshore siliciclastic facies. *Palaios*, **6**, 250 - 263.

1991 Goldring, R. *Fossils in the Field: information potential and analysis*: Longman, 204 pp.

1991 Stewart,, D.J., Ruffell, A., Wach, G., Goldring, R. Lagoonal sedimentation and fluctuating salinities in the Vectis Formation (Wealden Group), Lower Cretaceous) of the Isle of Wight, southern England, *Sedimentary Geology*, **72**, 117-134.

1991 Crane, P.R., Goldring, R. The Reading Formation (late Palaeocene to early Eocene) at Cold Ash and Pincent's Kiln (Berks.) in the western London Basin. *Tertiary Research*, **12**, 147-158.

1992 Frey, R.W., Goldring, R. Marine event beds and recolonization surfaces. *Geological Magazine,* **129**, 325-335.

1992 Bromley, R.G., Goldring, R. The palaeoburrows at the Cretaceous to Palaeocene firmground unconformity in southern England. *Tertiary Research*, **13**, 95-102.

1992 Goldring, R., Pollard, J.E.,Taylor, A.M. Sedimentology and ichnology of the shallow marine Barton Group (Eocene) at Hengistbury Head and Barton on Sea. *In* : Kemp A. (ed.) Excursion Guide B.S.R.G. Annual Meeting, Southampton 1992, 53-65.

1993 Goldring, R. Ichnofacies and facies interpretation. *Palaios*, **8**, 403-405.

1993 Pollard, J.E., Goldring, R., Buck, S.G. Ichnofabrics containing *Ophiomorpha*: significance in shallow-water facies interpretation. *Journal of the Geological Society*, *London,* **150**, 149-164.

1993 Goldring, R., Pollard, J.E. Organisms and sediments: relationships and applications, *Journal of the Geological Society, London,* **150**, 137-140.

1993 Taylor, A.M., Goldring, R. Description and analysis of bioturbation and ichnofabric. *Journal of the Geological Society, London*, **150**, 141-148.

1995 Goldring, R. Organisms and the substrate: response and effect. *In:* Bosence, D.W.J., Allison P.A. (eds.) *Marine Palaeoenvironmental Analysis from Fossils.* Geological Society Special Publication **83,** 151-180

1995 Goldring, R., Pollard, J.E. A re-evaluation of *Ophiomorpha* burrows in the Wealden Group (Lower Cretaceous) of southern England. *Cretaceous Research,* **16**, 665-680.

1995 Goldring, R., Bland. B.H. *Teichichnus* Seilacher 1955 and other trace fossils (Cambrian?) from the Charnian of Central England. *Neues Jahrbuch für Geologie und Paläontologie, Abhandlungen* **195**, 5-23

1996 Goldring, R. The sedimentological significance of concentrically laminated burrows from Lower Cretaceous Ca-bentonites, Oxfordshire. *Journal of the Geological Society, London*, **153**, 255-263.

1996 Goldring, R., Jensen, S. Trace fossils and biofabrics at the Precambrian-Cambrian boundary interval in Western Mongolia. *Geological Magazine*, **133**, 403-415

1996 Goldring, R., Kelly, S. Trace Fossils meeting, Field programme. Geologists' Association and Oxford Brooks University, June 8, 1996. 13pp.

1996 Goldring, R., Pollard, J.E. Ichnotaxonomic revision and the importance of type material. *Palaeontological Association Newsletter,* **31**, 7-8.

1996 Lindsay, J. F., Brasier, M. D., Dorjnamjaa, D., Goldring, R., Kruse P. D., Wood R. A. Facies and sequence controls on appearance of Cambrian biota in southwestern Mongolia: implications for Precambrian/ Cambrian boundary. *Geological Magazine*, **133**, 417-428.

1996 Seilacher, A., Goldring, R. Class Psammocorallia (Coelenterata, Vendian - Ordovician): recognition, systematics, and distribution. *GFF*, **118**, 207-216.

1997 Goldring, R., Pollard, J.E., Taylor, A.M. Naming Trace Fossils. *Geological Magazine,* **134**, 265-268.

1998 Goldring, R., Astin, T.R., Marshall, J.A.E., Gabbott, S., Jenkins C.D. Towards an integrated study of the depositional environment of the Bencliff Grit (Upper Jurassic) of Dorset. *In*: Underhill, J.R. (ed.) *Development, Evolution and Petroleum Geology of the Wessex Basin.* Geological Society Special Publication, **133**, 355-372.

1998 Goldring, R., Layer, M.G., Magyari, A., Polatas, K., Dexter, J. Facies variation in the Corallian Group (U.Jurassic) of the Faringdon-Shellingford area (Oxfordshire) and the rockground base to the Faringdon Sponge Gravels (L. Cretaceous). *Proceedings of the Geologists' Association*, **109**, 115-125.

1998 Bin Hu, Guanzhnong Wang, Goldring, R. *Nereites* (or *Neonereites*) from Lower Jurassic lacustrine turbidites of Henan, Central China. *Ichnos*, **6**, 203-209.

1999 Goldring, R. *Field Palaeontology* (2nd edition) Longman, 191 pp.

1999 Goldring, R. Sedimentological aspects and preservation of Lower Cretaceous (Aptian) bentonites (fuller's earth) in southern England. *Neues Jahrbuch für Geologie und Paläontologie, Abhandlungen,* **214**, 3-24.

1999 Goldring, R., Alghamdi, J.A. The stratigraphy and sedimentology of the Readiing Formation (Palaeocene to Eocene) at Knowl Hill, near Reading (southern England. *Tertiary Research*, **19**, 107-116.

2000 Goldring, R., Pollard, J.E., Rindsburgh, A.K. Development of invertebrate ichnology in UK: Roland Goldring and John Pollard in interview. *Ichnology Newsletter*, **22**, 40-45.

2002 Bland, B.H., Gibert, J.M. de, Goldring, R. A fossil whodunnit. *Geology Today,* **17**, 229-230.

2002 Goldring, R., Gruszczynski, M., Gatt, P.A., A bow-form burrow and its sedimentological and paleoecological significance. *Palaios*, 17, 622-630.

2003 Buck, S. G., Goldring, R. Conical sedimentary structures, trace fossils or not? Observations, experiments, and review. *Journal of Sedimentary Geology*, 73, 338-353.

2003 Taylor, A., Goldring, R., Gowland, S. Analysis and application of ichnofabrics. *Earth-Science Reviews*, **60**, 227-259.

2004 Goldring, R., Cadee, G.C., D'Alessandro, A., Gibert, J.M.de, Jenkins, R., Pollard, J.E. Climatic controls of trace fossils distribution. In: McIlroy, D. (ed.) *The Applications of Ichnology to Palaeoenvironmental and Stratigraphic Analysis*. Geological Society of London Special Publications, **228**, 77-92.

2004 Pound, C.J., Chapman,T.J. (assembled by Goldring, R.). A major submarine slide in the Lynton Formation (Lower to Middle Devonian) in North Devon. *Geoscience in south-west England,* **11**, 15-20.

2005 Goldring, R., Pollard, J.E., Radley, J.D. Trace Fossils and pseudofossils from the Wealden strata (non-marine Lower Cretaceous) of southern England. *Cretaceous Research*, **26**, 665-685.

2005 Goldring, R., Taylor, A. M., Hughes, G.W. The application of ichnofabrics towards bridging the dichotomy between siliciclastic and carbonate shelf facies: examples from the Upper Jurassic Fulmar Formation (UK) and Jubaila Formation (Saudi Arabia). *Proceedings Geologists' Association* , **116**, 235-249. (Shearman Volume).

2006 Lewy, Z., Goldring, R. Campanian crustacean burrow system from Israel with brood and nursery chambers representing communal organization. *Palaeontology*, **49**, 133-140.

200x Gallois, R. W., Goldring, R. Trace fossils at the sub-Albian (Cretaceous) unconformity surface in southern England and the nature of the unconformity surface. *Proceedings Geologists' Association* (in press).

200x Gibert. J.M de, Goldring, R. An ichnofabric approach to the depositional interpretation of the intensely burrowed Bateig Limestone, Miocene, Spain. *Sedimentary Geology* (in press).

200x Cadee, C. C., Goldring, R. The Wadden Sea: cradle of invertebrate ichnology. *In*: Miller, W. (ed.) *Trace fossils: concepts, problems and prospects.* Elsevier. (in press).

200x Goldring, R., Cadee, C.C., Pollard, J.E. Climatic control of marine trace fossil distribution. *In*: Miller, W. (ed.) *Trace fossils: concepts, problems and prospects.* Elsevier. (in press).

Tyler Hauck contributed these luscious images of pelleted, thick-walled, crab-burrow apertures. The locale is Ogeechee River in an area studied by MSc Candidate Sarah Gunn.

Photo Contest! Email the editors a figure caption that states the appropriate interpretation of this image and win accolades in the next IN and a bottle of blueberry “wine” from Canada.

And yes... the lighter colored sand patches are due to biogenic activities.

Coprolites From Portugal: A Synthesis With The Report Of New Findings

C. Neto de Carvalho and **Carlos Farinha**

"They keep the typical form of excrements…but don't stink."

Carlos Teixeira (1978)

Abstract

The coprological contents from the Portuguese fossil record are analysed to assess their utility in palaeobiological, palaeoecological and sedimentological applications. The scatological specimens, comprising sparse occurrences from the Ordovician to the Holocene, were critically inventoried and described within their stratigraphic setting. New coprolites are identified whose morphological signature is compared to theropods, selachians and other indeterminate vertebrates.

Introduction

The statement above, made by one of the most influent Portuguese palaeontologist and geologist, Carlos Teixeira, shows the playful or worse, indifferent way Coprology (an Ichnological subdiscipline) has been treated in Portuguese palaeontological studies. This treatment dates back to 1742 and the early work *Traité des pétrifications* from Bouguet and Cortier. Worldwide however, the recognition and study of fossilized faeces in the global stratigraphic record has increased significantly since the work of Buckland (1823). It is only recently that Coprology has received renewed interest in Portugal, with the works of Brönnimann (1976), Schweigert et al. (1997), Friis et al. (2000a,b) and Antunes et al. (2006). The aim of this synthesis is to group the sparse published references about Portuguese coprolites identified in Portugal, using the most recent concepts in Coprology. Those and new findings will then be evaluated for their applicability in Palaeobiological and Sedimentological studies, between the Ordovician and the Holocene. Whenever possible, an attempt is made to either identify the *excudit* (Latin for "*who carved*"), or describe the signature of the coprolite sculptor by morphophysiological interpretations corroborated with faunal co-occurrences.

Ordovician faecal pellets

The coprological record is limited in Portuguese Palaeozoic strata to occurrence of the ichnogenus *Tomaculum* in the Middle Ordovician. *Tomaculum* Groom, 1902 is defined by rows or concentrations of millimetre-wide cylindrical faecal pellets on bedding planes that are composed of material differing from the surrounding muddy sediment. This ichnogenus was occasionally reported in Portugal as *Tomaculum problematicum* and *T.* isp. from Valongo Formation and the Cácemes and Brejo Fundeiro Formations, dated respectively from the lower Oretanian, and the Oretanian to lower Dobrotivian (Couto et al. 1997; cf. Romano et al. 1986; cf. Romano, 1991). *Tomaculum* isp. is also found in the Dobrotivian from the Fonte da Horta Formation (cf. Romano, 1991). Usually, *Tomaculum* occurs in black shales deposited in a peri-Gondwanan offshore depositional setting, without wave or bottom current influences. It is associated with anoxic water-substrate conditions and a low ichnodiversity, tipifying the Association D of Romano (1991). The producer of this ichnogenus is unknown and certainly polyphyletic, but the composition and displacement of *Tomaculum* suggests its producer is a vagile epibenthic detritivorous animal with an opposing mouth and anus.

Scat in the Mesozoic: From crustacean and insect pellets to helicoidal faeces from selachiens and theropods

Favreina *in calciturbidites and palaeokarsts, reptilian dejections in incipient calcretes: ecological dynamics related to North Atlantic rifting*

Favreinids are a classic item within microcoprolites and are commonly described in Portuguse sections (at Sintra and Alenquer) dated from the Kimmeridgian to lower Valanginian (Ramalho, 1971; Brönnimann, 1976; Schweigert et al. 1997). They are faecal pellets structurally composed of channel sets similar to those seen in the excretion products of modern anomurids (Bromley, 1990). If the *excudit* is *grosso modo* comparable, the occurrence of this ichnofamily along with other direct and indirect evidences of the producer enable prediction of the ecological conditions at the time of deposition. In the Portuguese examples, ecological condition changed with the evolution of depositional environments that resulted from the main rifting stage of the Lusitanian Basin. The Mem Martins Formation in Sintra, dated from Kimmeridgian to lower Tithonian by Ramalho (1971), is a hectometre sin-rift sequence formed by iron-rich marls, and fine, bioclastic and terrigenous limestones that are occasionally highly bioturbated by *Thalassinoides suevicus* (Rieth, 1932). Bioturbation in the limestones is more common towards the top of the Formation. The bioturbation trend is accompanied by an

increase of clast-supported calcareous breccias formed by algal biostromes, including big corals, bryozoan and stromatoporoids. Sequential variations along Mem Martins Formation result from turbidites generated in shallower environments bringing calciclastic sediments to the reef base. Overlying this unit, the sequence is composed by thick non-organogenic limestones, which are interbedded with thin beds of iron-rich marls. The top of the organogenic limestone unit is marked by a series of coral-rich and oncolite-rich limestones that exhibit thicker bedding upwards and undefined stratification. These beds were deposited in a shallower depositional setting with high hydrodynamic conditions and define the transition to a reefal environment at the top of the Formation.

Following Mem Martins Formation, the Farta Pão Formation is the last Jurassic one in Sintra. It is composed of thick beds highly bioturbated (*Thalassinoides suevicus ichnofabrics*) fine limestones, giving them the common mottled texture that results from differential eodiagenetic lithification by secondary porosity within the sediments (Fürsich, 1981). The limestones are interbedded with grey marls, which exhibit a fossil assemblage (naticids, Pycnodontidae teeth and benthic macroforaminifera) typical of confined reefal lagoon environment. These depositional conditions remained until the Early Cretaceous.

Spongeliomorpha-Ophiomorpha-Thalassinoides group was produced by crustaceans (*e.g.*, Bromley, 1990; Ekdale, 1992). In fact, *fodinichnia* nets of Y-type branching burrows produced in the modern are constructed by decapods (see examples in Glaessner, 1969; Bromley, 1990). In the Lusitanian Basin during the Lare Jurassic, exemplified by Sintra section, the *Thalassinoides* ichnofabric dominates lagoon facies developed behind a reef barrier, and occurs locally in fore-reef facies by means of a forced gravity-induced transport towards the deep (Neto de Carvalho and Rodrigues, in prep.). In lagoon facies, Ramalho (1971) found crustacean remains and *Favreina* Brönnimann, 1955 in the upper part of Farta Pão Formation. In his Figure 34 (1), the author shows a pereiopod with the typical morphology of fossorial decapods (anomurids or glypheoids). In his Figure 34 (4), proceeding from fore-reef facies, Ramalho (1971) identifies a faecal pellet as *Favreina* cf. *salevensis* (Paréjas, 1948) probably transported with typical reef microfauna (it shows some signs of rolling in its upper part). By the differential displacement of the two sets of bilaterally symmetric longitudinal channels shown in these described specimens, Brönnimann (1976) erected a new ichnospecies, *Favreina guinchoensis*. In the same lithofacies as the previous coprotype occurs another microcoprolite, *Prethocoprolithus* Elliot, 1962. *Prethocoprolithus* is a tubular form with nucleus perforation and walls composed of agglutinated skeletal remains. Ramalho (1971) identified this faecal form in shallow marine limestones from the upper Oxfordian of Lisbon, and attributed it to the digestion wastes of annelids.

In "Calcários de Ota", stratigraphically equivalent of Mem Martins Formation, two Favreinid coprofacies are described within paleokarst developed in reefal limestones (Schweigert et al. 1997). The *Favreina prusencis* (Paréjas, 1948) coprofacies is associated to a sin-sedimentary fill of karst fissures. Moreover, high concentrations of microcoprolites in the fill suggest that the paleokarst developed in a rocky intertidal environment, is the likely habitat of the producer. The *Petalina hexalunulata* Leinfelder, 1997 nov. isp. coprofacies is composed of scarce crustacean microcoprolites and oncoids, intraclasts, and microfauna. This mixed assemblage is likely sourced from lagoon environments from where the sediment was transported and deposited in the karst.

Vertebrate coprolites are particularly common in the continental lithofacies of the Lourinhã Formation (Dantas, 1990), where they occur as localized and isolated clusters. Until this work these occurrences have not been reported. Therefore, three coprotypes found in a reddish micaceous silt bed outcropping in Porto Dinheiro beach are described herein. This bed occurs within the Santa Rita Member of the Lourinhã Formation and is Tithonian in age (Hill, 1989; Figure 1). Quartz sandstones dominate within the Santa Rita Member, and are deposited in amalgamated, decametre-scale palaeochannels. In general channel drainage was to the NW (determined from the main direction of cross-stratification sets). The coprotypes occur within *fining-upward* mesossequences, which comprise channel sandstones overlain by mudflat or overbank fines and capped with palaeosoil-related carbonates. These sequences were deposited on a fan-delta passing to a braided-river system. Deposition was controlled chiefly by seismic activity along the fault wall, which bounds the Berlengas horst to the east (Hill, 1989). Between the multiple tectonic events that induced gravity flows of coarser sediments (increased by seasonal rainfalls), occurred periods of non-deposition. During these periods, alluvial retreat exposed wide mudflats to pedogenic alteration in a sub-arid environment.

The vertebrate coprotypes found have no *excudit* that associate them to a specific producer. Nevertheless, they exhibit morphological characteristics which enable recognition of environmental conditions contemporary

or subsequent to their deposition. The coprolite in Figure 1a is a cylindrical form bent during extrusion. Its original rigidity is revealed by: several shallow cracks generated in the moment of bending; sectioning of one of the endings (faecal fragmentation); and the absence of rectal constrictions or other anal marks on the lustrous surface. The coprotype in Figure 1b is cylindrical but with an elliptic outline. One end is sectioned and the other end has a mammillated projection (proximal portion resulting from sphincter contraction during extrusion). The bright surface shows agglomerations with rare vesicles of gas origin. The coprolite in Figure 1c has a raindrop shape with a bigger and more globular ending (the distal one), and an opposing mucronate one. Both endings were separated by anal constriction. The distal ending shows several concavities (impact marks). Its bright surface has numerous inclusions and cavities generated by gas release. Unlike this last coprotype, the first two do not show a flattened surface. This suggests that excretion of the former to faeces occurred by a water body or made close to the ground. Preservation *in situ* of these coprolites resulted from a high sedimentation rate within an overbank environment, which prevented the work of dung eaters. The absence of evident microbial decomposition and work of endodetritivores could be related to the strong dehydration of the scat and/or variable salinity rate. However, type II carbonate layers of Pimentel et al. (1996) are deposited on the top of the silt unit and render possible the post-depositional preservation of the coprolites resulting from anoxic conditions imposed by percolation of reduced alkaline fluids in phreatic horizons. Carbonate epigenization, better shown in coprotypes of Figures 1a and 1b, is the conclusion of this early diagenetical process.

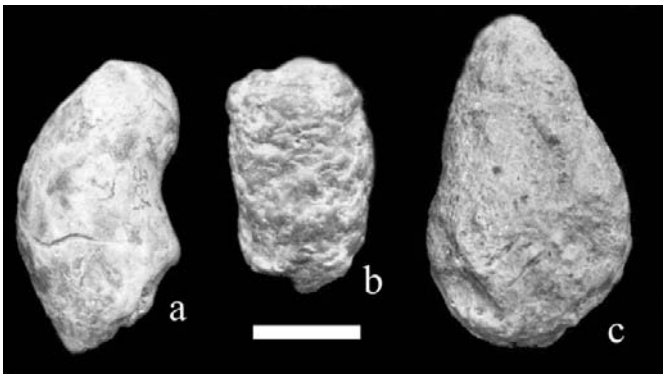


Figure 1. Vertebrate coprotypes identified in the Tithonian from Lourinhã Formation: (a) **CCR364CC**. Fragment of a cylindrical faecal body, gently bent and with several fractures indicative of original rigidity by dehydration; (b) **CCR365CC**. Pelletoidal agglomerated structure with mammillary ending. (c) **CCR366CC**. Ovoid coprolite, anisopolar and mucronate, with impact scars; scale = 10 mm.

Mutualist interactions in the beginning of the great botanic revolution

Palaeobiological studies that include descriptions of biotic interactions in the fossil record are extremely difficult to validate because of either infinitesimal probability to perpetuate snapshots (taphonomic windows) or increasing ambiguity with older occurrences or involving lineages long ago extinct. The studies become truly disturbing when an attempt is made to find mutualism relationships since these can be easily mistaken for commensalism, parasitism or a simple succession of signs uncorrelated in space and/or time. Nevertheless, coprolites may be good indicators of indubitable mutualism. Friis et al. (2000a; 2001), describe the first unequivocal evidences of the first floristic groups divergent in angiosperm phylogeny. Moreover, they found in fluvial mud lenses of the Nazaré and Cós-Juncal Formations (Barremian-Aptian) monospecific pollinic macerate aggregates of Cabombaceae being interpreted and excretion products of Diptera (Friis et al. 2000b). Previous evidences of insect-angiosperm interactions from the first radiation stages of this successful botanic group were exclusively based on functional morphology of flower constituents (Friis et al. 2001). The early diversity of angiosperms found in sediments from Vale de Água (Batalha) can be genetically correlated to the first evidences of the activity of highly specialized pollinator insects (Friis et al. *op. cit.*). This may indicate radiation of this mutualism behaviour originated from the Lusitanian Basin.

Helicoid coprotypes from Cretaceous carnivores (dinosaurs and selachians)

In bed 10a from the "Grés com Dinossáurios" Formation (lower Barremian) of Rey (1972) were recovered two coprolites in a lentiform black argillite with carbonized plant remains and pyrite. The depositional environment was a dead river meander (in an anaerobic regime) of a non-incised fluvial-deltaic braided system. Based on the preservation and deformation of associated mud laminae, both coprolites are considered to belong to the same defecation event and deposited *in situ* (see below). The scat in Figure 2a shows 120 mm long, helicoidally shape, which is bent in the middle. Torsion was controlled chiefly by the high plasticity of the excrement and by continuous unloading (Thulborn, 1991). One of the endings is 33 mm wide and exhibits a more globular outline than the opposite ending (anisopolar). The globular ending was likely the distal pole in the moment of extrusion. This ending shows a large concavity resulting from the high fall and impact of the dung with the river-bed. This phenomenon was also responsible for the body bending

(Figure 2b). The second coprolite was originally less solid, and displays a hemispherical shape induced by the impact. An absence of surface weathering and desiccation cracks in both structures point to deposition and burial in an aquatic environment. The elliptic outline reveals the polarity of deposition on the substrate. Scat surface is bright and has faint striations parallel to the main axis (marks of the anal valve), showing adhesion of plant remains. Entire structure develops rectal constrictions. Coprolite composition is cryptocrystalline phosphates with no inclusions. Fissures filled with sparite and associated pyrite (Figure 2c) indicate syn-diagenetic percolation of reduced alkaline fluids. The presence of rare quartz grains results from their occasional consumption during food ingestion in a sedimentary environment quite different from the one where the dung was dropped. Coprolites also display a darker peripheral areola, possibly corresponding to a process of gravity or diagenetic differentiation. In the later case, this would be related to slight changes in the chemical environment brought about by the presence of mucus on the surface of the scat (Thulborn, 1991).

Coprolite width depends on the elasticity of the tubular intestine, allowing prediction, *grosso modo*, of how big the producing animal was (Thulborn, 1991; Hunt et al. 1994). In this particular case, by inferred proportionality the producer was more than two meter in length. Considering the shape, dimension, consistence, composition and depositional environment of the faeces, the *excudit* was likely a carnivore, and possibly a theropod dinosaur. Megalosaurids are the only group of theropods whose osteological remains were found in the same Formation (*vide* Dantas, 1990). However, if the absence of dietary remains is symptomatic of a digestion made with low enzymatic activity, by hydrocloridric acid, and not from a significant diagenetical imprint, then a crocodilian as the producer is also possible.

Picotinhos section (Fanhões, Loures) comprises marginal-marine sequences of the middle Cenomanian lower Cacém Formation. In a marl bed with poor macrofossil content 60 m above the boundary with the Torres Vedras Formation, Farinha (2000) found a rich fish and reptile microfauna and common microcoprolites. A delta front/confined bay depositional environment is assumed for this unit based on the sedimentary features, i.e. granulometry (prevailing mud levels), composition, absence of sedimentary structures, and fossil content. In respect to microcoprolites, there are two coprotypes. The first are helicoidal coprolites (Farinha, 2000), which are dextral amphipolars. One pole is rounded and the other one truncated, which is typical of the spiral valvular intestines of Elasmobranchs and Agnathans (Figures 3a and 3b Hunt et al. 1994). The second type are cylindrical and ellipsoidal, heteropolar coprolites (flattened and fusiform). These sometimes have longitudinal striae, gas bubbles, and uncertain teleostan inclusions. The recovered ichtyofauna is dominated by benthic coastal selachians, emphasizing rajiformes and without Agnathans. Lamniformes, Rajiformes, and Orectolobiformes – mainly *Ptychotrygon*, *Chiloscyllium*, *Micropristis* and *Cantioscyllium* (Farinha, 2000, 2001) - are between the probable producers. The second coprotype was previously identified in the Cacém Formation and in the upper Cenomanian from Barcarena and Laveiras, where it showed inclusions of small vertebrae and cephalic bones of *Clupavus* (Jonet, 1964, 1977, 1981).

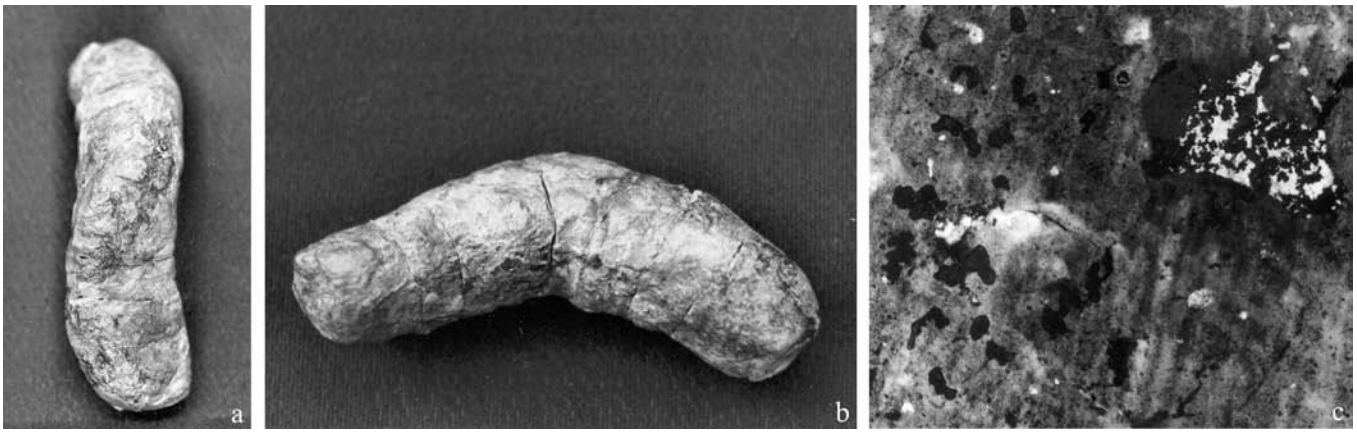


Figure 2. Theropod coprolites from the lower Barremian ("Grés com Dinossáurios" unit) at N of Cabo Espichel cape. (a) **GPMNHN367CC**. Torsion effect by uninterrupted unload (oriented by the direction of extrusion). Scale = 20 mm. (b) The same coprolite in its original resting position - anisopolar with rectal-anal constrictions. Scale = 20 mm. (c) **GPMNHN368CC**. Transverse thin section through the coprolite, showing a cryptocrystalline iron-rich composition and growth of sparite and pyrite in secondary fissures. Scale = 500 µm.

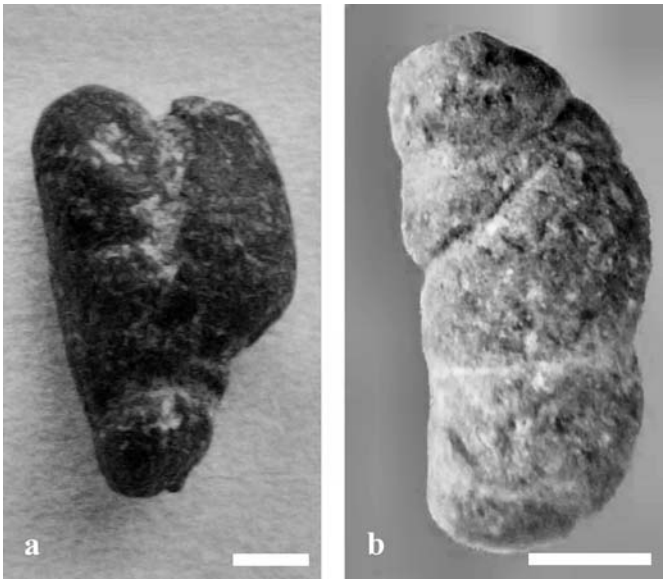


Figure 3. Selachian microcoprolites from the middle Cenomanian of Loures. Samples from the private collection of Carlos Farinha. (a) **0008481163.** Amalgamated structures. Scale = 1 mm. (b) **0008481159**. Dextral amphipolar coprotype. Scale = 1 mm.

Cenozoic Coprology: notes on Ecology and Anthropology

The study of fossilized dung in the Portuguese Cenozoic is mainly limited to Pleistocene occurrences in caves. Nevertheless, there are several coprolites found in the continental Miocene from Lisbon stored in the Geological Museum of INETI (Teixeira, 1978: p. 174). Those coprolites have yet to be described, but are considered to result from the digestive processes of Mastodons. Antunes et al. (2006) elegantly described three coprolites from the lower Miocene and from early middle Miocene of Lisbon. Two of them were trampled by their producers: the rhinoceros *Hispanotherium matritensis* and the equid *Anchitherium*. The third one was made by the Anthracothere *Brachyodus onoideus* and later was trampled by the cervid *Plesiaceratherium dichotomus* (Antunes et al. 2006). Antunes (1994) also described a long-snouted crocodilian coprolite with vertebrae of the fish *Lates*. Regarding the Pleistocene, hyenid remains with their coprolites "*album graecum*" and bone fragments of cervids and goats are reported in caves. These caves are thus interpreted as hyena dens. Hyena coprolites are also found on a fluvial terrace at Várzea de Loures, and are dated from the interglaciar Riss-Würm (Zbyszewski, 1943). Coprology potential for ecological reconstitutions in Archaeology is best evidenced by the recent and important discovery of the Gravettian child grave (23900-24900 years b.p.), which is the first Palaeolithic burial found in Iberia (*e.g.*, Zilhão, 2001). The excavated horizons below the skeleton level include abundant canid coprolites with equid and cervid bones that exhibit wolf bite incisions. These evidences suggest that the Lagar Velho shelter was a wolf den until the burial event. After that there was an explicit intention to divide the sepulchre area from the domiciliary space (Zilhão, *op. cit.*).

Scat today's importance: monitoring of endangered species

Coprology, once was and still is a practical discipline of researchers and hunters. Now however, it has a new application resulting from the baleful actions and massive overpressure of Man on ecosystems, and the endangering to extinction of a growing number of species. Geographic and population monitoring of endangered or more discreet species by biologists, such as *Canis lupus* and *Lynx pardinus* in Portuga, resort to indirect expeditious methods like tracking footprints and dejects. The latter frequently signal animal territories.

Conclusions

This incremented synthesis of the present knowledge about coprolites in Portugal shows that Palaeozoic and Cenozoic formations are deficient in recovered specimens and studies. Yet rocks from these Eras have a high diversity fossil record and sedimentary events prone to preservation of organic wastes. Coprology may therefore play a greater role in the future in palaeobiological and palaeoecological studies. In the Cenozoic for example the applicability of coprology in palaeoparasitology and palaeodiet discrimination may lead to an increased number of fossilized faeces studies in Portugal, in areas such as Human Palaeontology and Mammalogy. On the other hand, Portuguese Mesozoic formations reveal more coprological contributions, both from invertebrates (crustaceans and insects) and vertebrates (resulting fro dinosaur palaeobiology studies). However, these studies miss modern approach to the innumerable vertebrate coprolites co-occurring with important osteological findings that were made in recent years in Portugal. These findings would constrain the sedimentary environment and establish possible trophic responsibilities.

Acknowledgments

The authors would like to thank to Sérgio Saltão for his help during the fieldwork and the discussions in the early stages of this work; to Karen Chin (U.S.G.S.), for the indications concerning coprolite analysis techniques and for the bibliography; to Mário Cachão (University of Lisbon, Portugal), for the scientific support; specially to Shahin Dashtgard (University of Alberta, Edmonton), who spent exactly 4 hours and 38

minutes (!) revising this English version of the text to become legible. This is a contribution for the project POCI/CTE-GEX/58415/2004 – *Inventory and study of the vertebrates from the Middle Jurassic to the Upper Cretaceous of Portugal – implications in palaeobiology, palaeoecology, evolution and stratigraphy* granted by Science and Technology Foundation.

References

Antunes, M.T., Balbino, A.C. & Ginsburg, L. 2006. Miocene Mammalian footprints in coprolites from Lisbon, Portugal. Annales de Paléontologie, 92: 13-30.

Antunes, M.T. 1994. On Western Europe Miocene Gavials (Crocodylia): their paleogeography, migrations and climatic significance. Comunicações do Instituto Geológico e Mineiro, 80: 57-69.

Bromley, R.G. 1990. Trace fossils. Biology and Taphonomy. Unwin Hyman, London, 280 pp.

Brönnimann, P. 1976. Revision of the lectotype of *Favreina salevensis* (Parejas) (Crustacea-Decapoda) and description of favreine form-species from the Jurassic and Cretaceous of Scotland, Portugal, Yougoslavia and Pakistan. Paläontologische Zeitschrift, 50(1-2): 40-56.

Buckland, W. 1823. Reliquiae diluvianae. London.

Couto, H., Piçarra, J.M. & Gutiérrez-Marco, J.C. 1997. El Paleozóico del Anticlinal de Valongo (Portugal). In: V Reunión International Proyecto 351 PICG "Paleozoico Inferior del Noroeste de Gondwana", A Coruna, 1997, Libro de Resúmenes y Excursiones (Eds. A. Grandal d`Anglade, J.C. Gutiérrez-Marco & L. Santos Fidalgo). Sociedad Española de Paleontología, Madrid: 270-290.

Dantas, P. 1990. Dinossáurios de Portugal. Gaia, 2: 17-26.

Ekdale, A.A. 1992. Muckraking and Mudslinging: The Joys of Deposit-Feeding. In: Trace Fossils (Eds.. C.G. Maples & R.R. West). Short Courses in Paleontology, 5. The Paleontological Society, Knoxville: 145-171.

Farinha, C. 2000. Cosmopolitismo dos Elasmobrânquios durante o Cenomaniano-Turoniano: evidências no Cenomaniano Médio a N de Lisboa. In: PANGEA'00, I Jornadas Ibéricas de Jovens Geólogos (Eds.. D. Carapinha, H. Alvalade & J.B.D. Ferrer). Évora: 114-125.

Farinha, C. 2001. Dois novos orectolobiformes no Cenomaniano médio da região de Lisboa: Chiloscyllium Müller & Henle, 1837 e Cantioscyllium decipiens Woodward, 1889. In: PANGEA'01, II Jornadas Ibéricas de Jovens Geólogos (Eds. H. Alvalade, S. Gonçalves & R. Dias). Évora: 121-126.

Friis, E.M., Pedersen, K.R. e Crane, P.R. 2000a. Fossil floral structures of a basal angiosperm with monocolpate, reticulate-acolumellate pollen from the Early Cretaceous of Portugal. Grana, 39: 226-239.

Friis, E.M., Pedersen, K.R. e Crane, P.R. 2000b. Reproductive structure and organization of basal angiosperms from the Early Cretaceous (Barremian or Aptian) of Western Portugal. International Journal of Plant Science, 161(6): S169-S182.

Friis, E.M., Pedersen, K.R. e Crane, P.R. 2001. Fossil evidence of water lilies (Nymphaeales) in the Early Cretaceous. Nature, 410: 357-360.

Fürsich, F.T. 1981. Invertebrate trace fossils from the Upper Jurassic of Portugal. Comunicações dos Serviços Geológicos de Portugal, 67(2): 153-168.

Glaessner, M.F. 1969. Decapoda. In: Treatise on Invertebrate Paleontology, Part R - Arthropoda 4(2) (Ed. R.C. Moore). The Geological Society of America and the University of Kansas Boulder, Colorado and Lawrence: 400-651.

Hill, G. 1989. Distal alluvial fan sediments from the Upper Jurassic of Portugal: controls on their cyclicity and channel formation. Journal of the Geological Society of London, 146: 539-555.

Hunt, A.P., Chin, K. & Lockley, M.G. 1994. The Palaeobiology of Vertebrate Coprolites. In: The Palaeobiology of Trace Fossils. (Ed. S.K. Donovan). The Johns Hopkins University Press, Baltimore: 221-240.

Jonet, S. 1964. Contribution à la connaissance de la faune ichtyologique crétacée. II - Éléments de la faune Turonienne. Boletim da Sociedade Geológica de Portugal, 15: 157-174.

Jonet, S. 1977. Cénomanien moyen de Cacém de Cima. Comunicações dos Serviços Geológicos de Portugal, 61: 195-222.

Jonet, S. 1981. Contribution à l`étude des vertébrés du Crétacé portugais et spécialement du Cénomanien de l'Estremadure. Comunicações dos Serviços geológicos de Portugal, 67(2): 191-306.

Leinfelder, R.R. 1994. Karbonatplattformen und Korallenriffe innerhalb siliziklastischer Sedimentationsbereiche (Oberjura, Lusitanisches Becken, Portugal). Profil, 6: 1-207.

Neto de Carvalho, C. & Rodrigues, N.P.C. (in prep). Compound *Asterosoma ludwigae* Schlirf, 2000 from the Jurassic of the Lusitanian Basin (Portugal): conditional strategies in the behaviour of Crustacea.

Pimentel, N., Wright, V.P. & Azevêdo, T.M. 1996. Distinguishing early groundwater alteration effects from pedogenesis in ancient alluvial basins: Examples from the Palaeogene of Southern Portugal. Sedimentary Geology, 105: 1-10.

Ramalho, M. 1971. Contribution à l´ètude micropaléontologique et stratigraphique du Jurassique supérieur et du Cretacé inférieur des environs de Lisbonne (Portugal). Memórias dos Serviços Geológicos de Portugal, (n. s.) 19: 1-212.

Rey, J. 1972. Recherches Géologiques sur le Crétacé Inférieur de l'Estremadura (Portugal). Memórias dos Serviços Geológicos de Portugal, (n. s.) 21: 1-471.

Romano, M. 1991. Lower to middle Ordovician trace fossils from the Central Iberian Zone of Portugal and Spain. In: Advances in Ordovician Geology (Eds.. C.R. Barnes & S.H. Williams). Geological Survey of Canada, 90(9): 191-204.

Romano, M., Brenchley, P.J. & McDougall, N.D. 1986. New information concerning the age of the beds immediately overlying the Armorican Quartzite in Central Portugal. Geobios, 19(4): 421-433.

Schweigert, G., Seegis, D., Fels, A. & Leinfelder, R.R. 1997. New internally structured microcoprolites from Germany (Late Triassic/Early Miocene), Southern Spain (Early/Middle Jurassic) and Portugal (Late Jurassic): Taxonomy, palaeoecology and evolutionary implications. Paläontologische Zeitschrift, 71(1-2): 51-69.

Teixeira, C. 1978. O mundo prodigioso dos fósseis. IV Curso de Extensão Universitária de Ciências Geológicas da Faculdade de Ciências da Universidade de Lisboa: 99-194.

Thulborn, R.A. 1991. Morphology, preservation and palaeobiological significance of dinosaur coprolites. Palaeogeography, Palaeoclimatology, Palaeoecology, 83: 341-366.

Zbyszewski, G. 1943. Les eléphants quaternaries au Portugal. Comunicações dos Serviços Geológicos de Portugal, 24: 71-89.

Zilhão, J. 2001. The Lagar Velho Child and the Fate of the Neanderthals. Athena Review, 2(4): 33-39.

Theodor Fuchs´ Experiments On The Formation Of Solemarks In Flysch

Andreas Wetzel

The Austrian geologist Theodor Fuchs coined the term *graphoglyptids* in 1895. Consequently, most ichnologists know his name. Nonetheless, his important (75 page long contribution[1]) has seldom been read as it is written in German. Sedimentologists likely have not read the paper because of its palaeontological title "Studien über Fucoiden und Hieroglyphen", and palaeontologists have not read it because of its ichnological title. The most ichnologists read, if at all, are the pages on trace fossils or the plates showing them because even the ichnological component is 67 pages long. Therefore, there is very high chance that the very interesting introductory pages on the sedimentology of flysch have been by-passed by too many people. Most geologists or even sedimentologists certainly do not know that Fuchs was one of the first, or may even have been the first to carry out experimental work on the formation of sole marks in turbidites. Fuchs is a very nice example about the open minded, anticipating work of people that study trace fossils. I have translated some important parts describing the experiments because I think this study should receive a wider reception than before.

In the late 1890's, the discussion among geologists focussed on the nature of surfaces within so-called flysch that are characterized by marks. Flysch is a term that comprises turbidite successions, and has its roots in a term derived from the Swiss Alps. Geological evidence in relatively undeformed strata suggested that at some localities surfaces with the marks represented lower surfaces, but at other localities they were found on the top of the beds. Furthermore, observations on the (at that time) often dirty streets of European cities showed that after heavy rainfall all the dirt formed structures that were very similar to those occurring in flysch. These dirt-flow structures however, formed on the surface. This is the background of Fuchs experiments ... but read the following descriptions by him:

> "For a long time different people have proposed that some surface sculptures that are often seen on the beds of flysch and similar deposits and resemble the well known Chirotherien tracks of the Upper Bunter, normally occur on the lower surface of the beds.
>
> The well-known experiments performed by Nathorst provided the rational reasoning for these deductions and, therefore, in more recent times one has to take into account when studying such phenomena, if the object analysed occurs on the upper or lower surface of a bed.
>
> Certainly during my investigations, which I did on the flysch deposits in the vicinity of Vienna, I had these studies in mind and, in fact, I was able to realise that some relief forms systematically occurred on the lower and some others systematically on the upper surface of the beds.
>
> ...
>
> To the most common and most evident surface sculptures within the flysch belong typical bulges, which cover the lower surface of some beds completely. These bulges display an endless plea of diverse varieties, but always provide the impression of something that flowed.
>
> It is striking that these bulges only occur on the lower surface of sandstone beds where these beds rest on soft marl layers. In this setting the bulges are rarely not present. Therefore, the existence of soft marl layers below is evidently a pre-requisite for the formation of such sculptures.
>
> ...
>
> In many instances it is impossible to think that within the soft mudlayers cavities could have existed that were casted to form the bulges. In the majority of the cases, namely in all those which exhibit vaulted-over margins of the bulges, this would mechanically have been an impossibility.
>
> In these cases rather the distinct impression is provided that the mass of the sandstone bed itself was in a pulpy state and flowed, such that the variety of surface sculptures formed due to irregularities in flow, by compression, and similar processes.
>
> In the current literature of Europe, these "Fliesswülste", how I would like to call them, have unfortunately not attracted much interest. In contrast they have been described by American colleagues quite often and have been figured as well. They have been partially interpreted as the result from flowing movement of soft material, called mudflows (Hall, Geology of New York, IV, 1843, p. 233, Fig. 101).
>
> The surfaces of lava flows or the flowing dirt on the streets exhibit very similar phenomena. Asphalt pavement in bad condition or dried oil paint often form deep brain-like windings on their surface, which are very similar to those on flysch beds.
>
> All the phenomena taken for comparison are formed on the upper surface of beds, whereas the analogue

phenomena of the flysch occur principally on the lower surface of the rock beds.

I have to confess that these circumstances for a long time deep troubled me."

Fuchs then goes on to describe his observations from other areas, including his detailed studies in the Vienna Forest. He outlined his deduction that he is convinced that the sculptured surfaces occur on the lower surface of beds, then he continues:

"While all these findings on the formation [of the sculptures] kept the question alive in my mind, I asked myself if it is completely clear that pulpy-flowing masses form structures only on their surface, and if such structures, when the flowing mass is moving on a soft substrate, cannot produce such sculptures on its lower surface too?

Evidently, the answer to this question can only be derived experimentally and I did not hesitate to perform them after my return from that journey [to Monte Rippaldi near Florence, where Theodor Fuchs studied other flysch deposits].

A basal layer of partly loose sand and partly soft muddy clay, and a moving material of partly plaster, and partly a mixture of cement and sand has been used.

I can only say that the obtained results have been frankly surprising. Already the first experiments displayed on the lower surface, bump-like elevation as they frequently occur on the lower surface of flysch beds. Further experiments provided an increasing variety of marks."

Thereafter Fuchs describes several forms he has obtained by his experiments see Plate I and Plate II 2.

"I am planning to continue with these experiments, but already the performed ones are in my opinion sufficient and provide complete evidence that flowing pulpy masses, which flow over a soft substrate, can produce a variety of bulges on the lower surface resembling those which occur so frequently on the lower surfaces of flysch beds."

Then Fuchs outlines that the surfaces of his experiments are always smooth, and he continues:

"If the flow-generated bulges in fact have been formed in the outlined way, then it is a pre-requisite that the beds of the flysch having sculptures on their lower surfaces, have been carried out in a flowing motion as a single mass and to a certain degree represent effusive muddy covers."

Fuchs also provided an explanation for the initiation of such mass flows:

"In a small paper which has been published in the year 1877 in the "Verhandlungen der Geologischen Reichsanstalt", I outlined that during each high tide [here it is not clear if Fuchs means high tide or storm tide, but probably the former] the water masses piling-up along the coast disturb the hydrostatic balance that initiates a seaward current in the deeper parts of the water. At that time I already pointed out that this counter-current necessarily carries material from the coast towards the deeper parts of the sea. This whole idea was only of theoretical interest for me at that time.

Later Forel in fact provided evidence for this aspect by his direct observations in Lake Geneva in combination with flood-like phenomena, the so-called "seiches", which he has intensely studied and has shown, that in fact during each "seiches" on the bottom of the water an undercurrent* is active which reaches down to considerable depth and develops a significant mechanical power. At the same time he has shown also that the development of an undercurrent along an open coast is a phenomenon that is well known by fishermen and sailors.

It is rather evident that the undercurrents that form during each flood produce not only those phenomena, which are produced by currents on the sediment surface, ... but it cannot be excluded, that rather strong disturbances of the hydrostatic balance under the certainly enormous unilateral pressure of the piled-up water masses also force whole packages of sediment to get into motion, either sliding or flowing.

There is still another possibility.

Reyer outlines in his book "Theoretical Geology", that in drained fish ponds, the mud masses that accumulated along the margins of the ponds start to move towards deeper parts while sliding and flowing.

It is quite conceivable that during uncommon low tide a similar phenomenon also occurs within marine sediments and that these, after they have to some extend divested of the resistance force, get into a flowing motion."

*Forel used the term "undertow", but Fuchs changed it to undercurrent.

References

Fuchs, T., 1895. Studien über Fucoiden und Hieroglyphen. Denkschriften der Kaiserlichen Akademie der Wissenschaften Wien, Mathematisch-Naturwissenschaftliche Klasse, 62: 369-448.

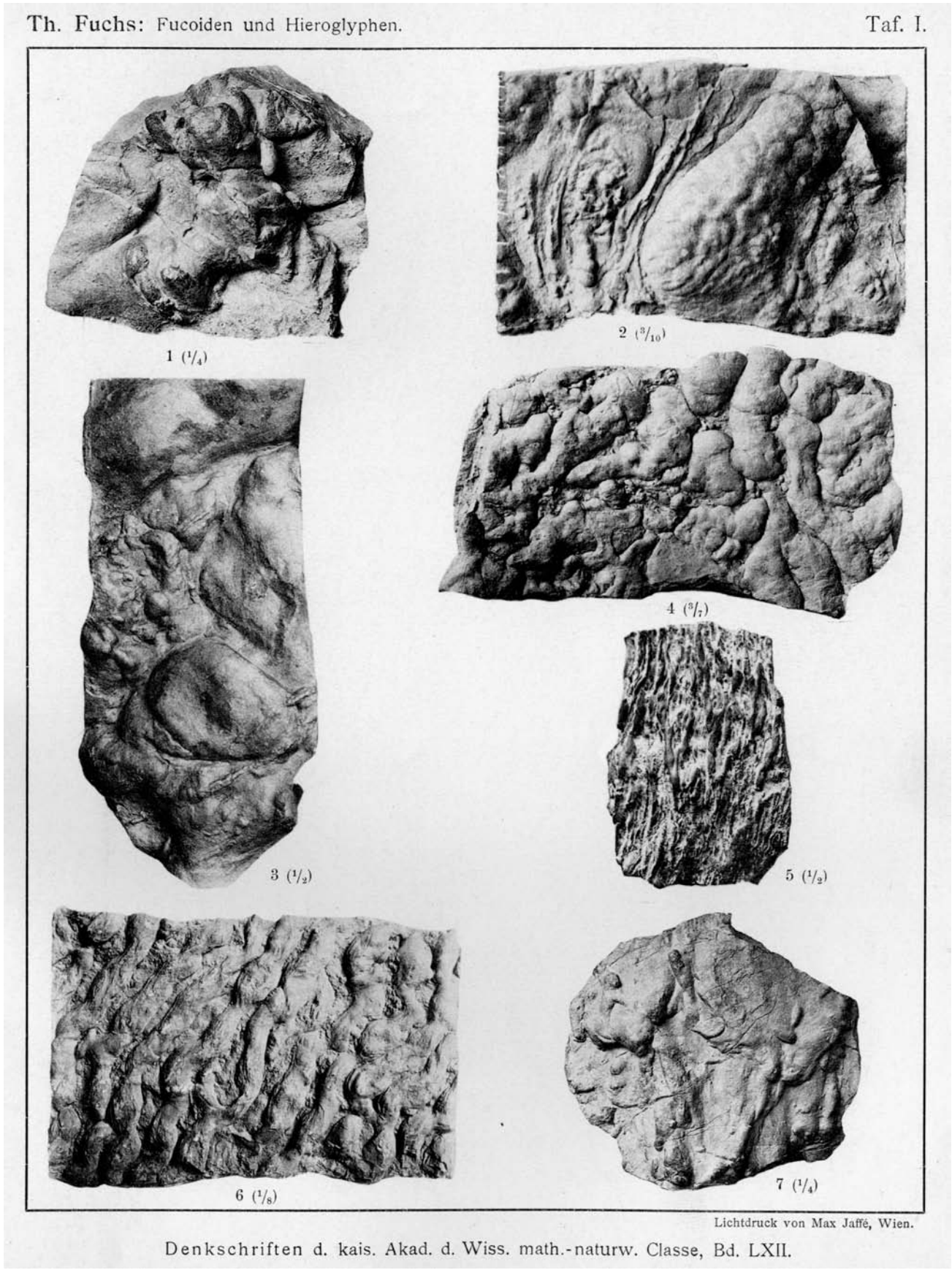


Plate I. Fliesswülste on the lower surface of beds. (1) Flysch of Kitzendorf near Vienna. (Eocene?). (2) Flysch of St. Andrä near Vienna. (Eocene?). (3) Flysch of Pressbaum near Vienna. (Eocene?). (4) Flysch of Monte Ripaldi near Florence (Cretaceous). (5) Wellenkalk near Dettingen. (6) Parallel Wülste, simiular to the genus *Laminarites* and *Panescorsaea* Sap., from the flysch fof Ripano near Florence. (Cretaceous). (7) Flysch from Kritzendorf near Vienna. (Eocene?).

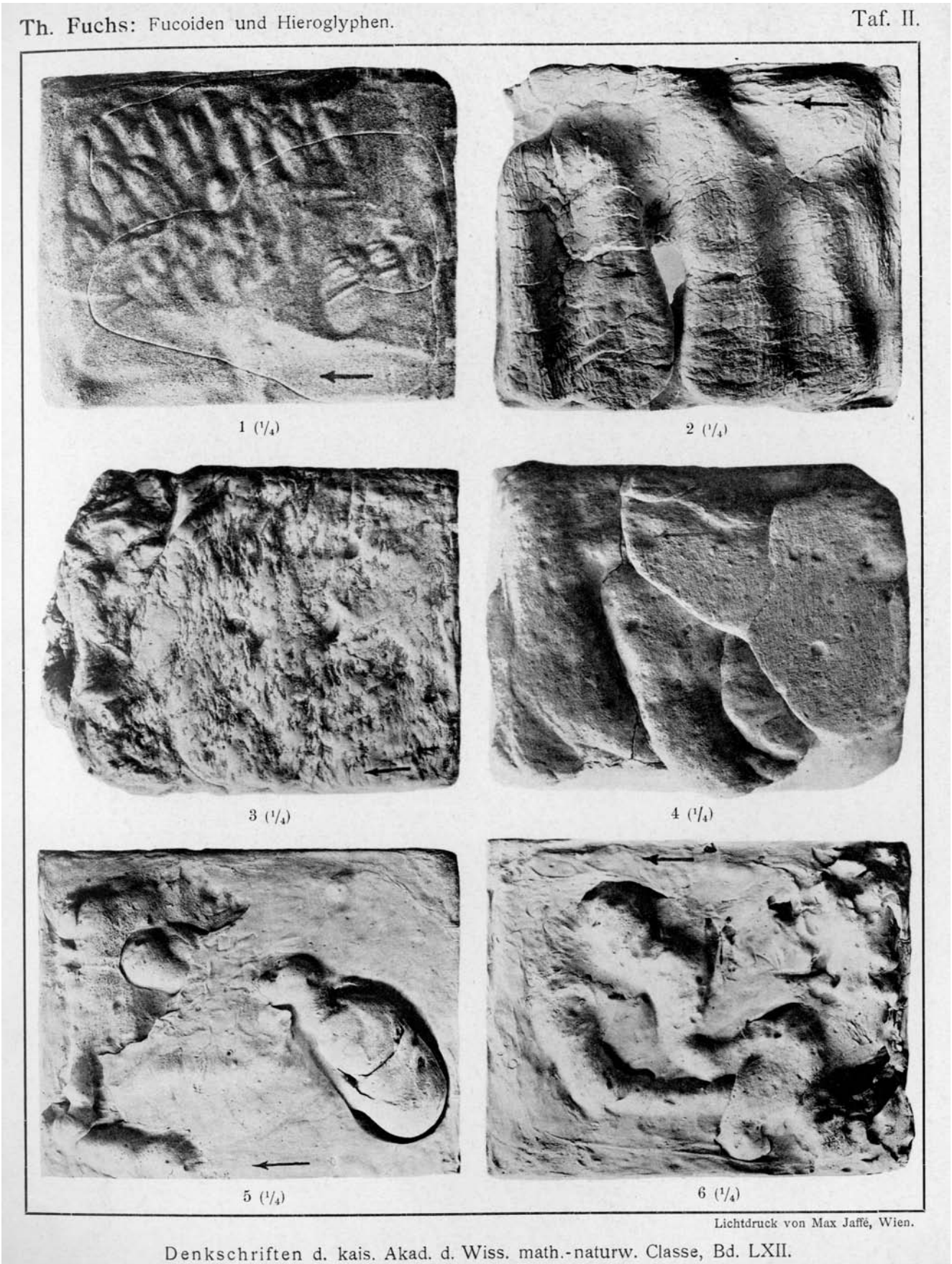


Plate II, Figures 1-6. Various bulge-like structures, formed in the lower surface of plaster of Paris and cement masses that moved over soft mud or loose sand (flow-bulges).

High resolution Middle Triassic vertebrate megatrack site stratigraphy and resulting new palaeogeographical reconstructions of carbonate tidal flats and sabkha environments in the Northwestern Germanic Muschelkalk Basin

Cajus Diedrich

Abstract

This article presents a first overview of a small area in which the high-resolution track bed stratigraphy of 20 localities in the Osnabrücker Bergland of northwest Germany resulted in new palaeogeographical maps. The vertebrate track beds are found in 14 different levels reaching from the Upper Bunter to the basal Middle Muschelkalk (Middle Triassic) in about 95 m of carbonate strata. However the tracks are present mainly in the Lower Muschelkalk units (Bithynian to Ilyrian). The track beds are present in low-stand deposits and demarcate the edge of the coastal zones. Environmental changes are inferred from carbonate tidal flat and sabkha deposits as evidenced in two time levels. Those environments surrounded the old Rhenish Massif and moved landwards during transgressive periods due to changes in the tectonically controlled basin relief.

Introduction

About 1000 years ago—in the Middle Ages—the grey and yellowish platy carbonates from the Lower Muschelkalk (Middle Triassic) were used for house construction. The first quarries were in and around Osnabrück (cf. Diedrich 2002c). The carbonates were used in many historic buildings such as the Holter castle, sacral buildings such as the Minster of Osnabrück (Feldwisch-Drentrup 1979) and farm buildings in the Osnabrücker Bergland. Today there are no more active quarries in the Lower Muschelkalk in the region.

Despite hundreds of years of quarry activities in the Lower Muschelkalk carbonates, the first discoveries of Middle Triassic vertebrate tracks were not made until systematic prospections were conducted in the old quarries or pits of the Osnabrücker Bergland in 1997 (Diedrich 1998a, b, 2000b). Many geologist overlooked the abundant vertebrate tracks and traces and even the common biolaminates were ignored (cf. Groetzner 1984, Langer 1989, Thiele 1990, Rosenfeld & Thiele 1992, Langer & Bosbach 1994, May 1997): and not only in that region (e.g. Kramm 1994, Götz & Feist-Burkhardt 1999). More vertebrate track sites were found in the western Germanic Basin at about 35 locales (Diedrich 2005) of which only a few were described in the Osnabrücker Bergland in detail (Diedrich 1998a, b, 2000a, c). These sites included Hagen-Silbersee (Diedrich 2002e) and within the centre of the city Osnabrück at the botanical garden and geotope Westerberg (Diedrich 2002b).

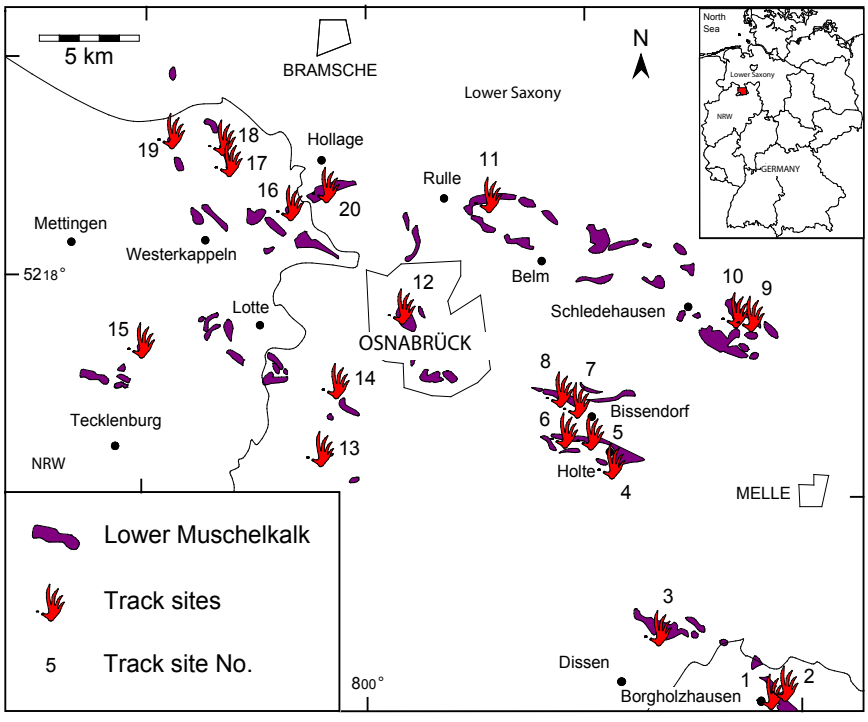


Figure 1. Twenty track sites and outcropping Lower Muschelkalk carbonates (Middle Triassic) in the Osnabrücker Bergland of northwestern Germany (Graphics PaleoLogic).

The recent discovery of 15 more track sites (Fig. 1: about 50 in the Germanic Basin now) and the megatrack site phenomenon in the carbonate tidal flat and lower sabkha environments of the Middle Triassic of Germany are under currently under study in a two years DFG-founded research project. The coastal megatracksites have an important significance regarding the interpretation of the Muschelkalk sequence stratigraphy and palaeogeography, especially the Lower Muschelkalk. Formerly this period was thought to be "without or (with) few fossils". Vertebrate tracks in the marine Triassic limestones were unexpected, because the classic Triassic *Chirotherium* tracks of Germany were found in terrestrial sandy environments.

Geology and Stratigraphy

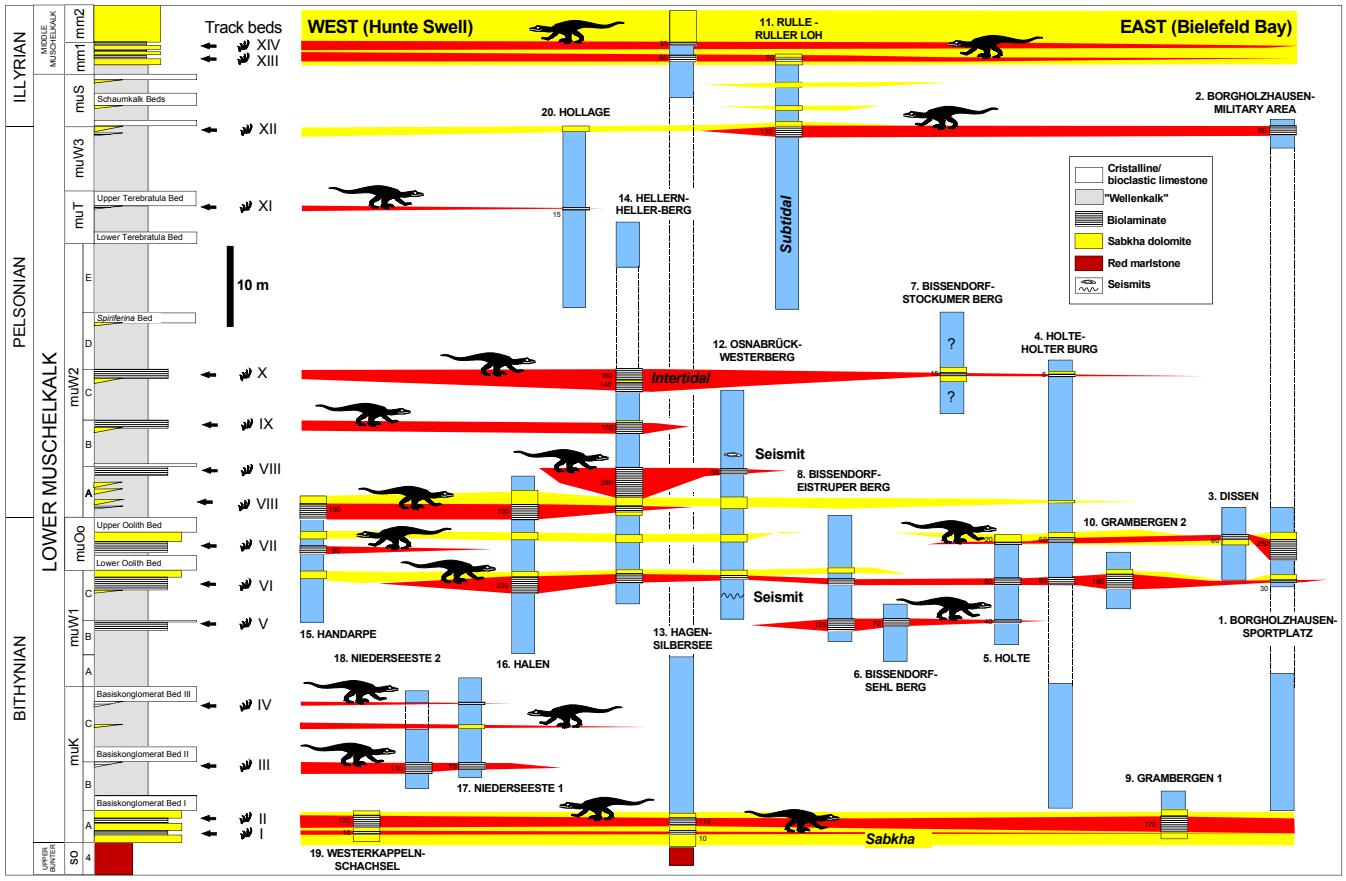
The track bearing sediments of the Muschelkalk comprise mud cracked microbial grey to yellowish laminates, which are intertidal products of microbial mats in lower to upper tidal-flat environments (Figs 2, 3). Also present are laminated dolomites of the supratidal lower sabkha facies association. In the upper sabkha tracks were nearly impossible to imprint or were not preserved well, primarily as a result of halite encrusted tepee surfaces and various diagenetic processes. In the tidal flat, the presence of microbial mats fixing tracks by early cementation—and perhaps the cohesive nature of the mats—explains why the tracks are preserved in some strata.

Other sediments of the Lower Muschelkalk are the typical subtidal "Wellenkalke", which are grey marly, bioturbated limestones with irregular surfaces (e.g. Knaust 1998a). At the end or the beginning of sedimentary sequences crystalline, bioclastic and intraclast rich beds present, providing typical marker beds indicating the flat subtidal, which are suggested to be more less isochronous (cf. Kramm 1994, Götz & Feist-Burkhardt 1999). Seismites are also described in the Germanic Basin at several places (Knaust 1998b): such beds were found in the section of the Osnabrück-Westerberg below and above the Oolithic Member. In the upper occurrence some haloids of about 30-40 cm in diameter are present, which evidence synsedimentary tectonic activity in the Hunte swell region. Seismites are well documented by Knaust (1998b) for the central Basin during the Lower Muschelkalk in different horizons.

Discussion

Megatrack sites are well known in different facies types and were defined by Lockley & Pittman (1989). The Middle Triassic megatrack sites of the Germanic Muschelkalk Basin are within intertidal carbonate flats and parts of the sabkha (Diedrich 2001c). The intertidal flat and sabkha deposits of the northwestern German Muschelkalk are similar to recent modern examples of the Persian Gulf (cf. Kendall 1979, Knaust 1997). The reader is referred to earlier experiments with an

Figure 2. Generalized high-resolution track bed stratigraphy and megatrack site concept at 20 non-active outcrops of the about 100 in height upper Bunter to lower Middle Muschelkalk limestones (Middle Triassic) in the Osnabrücker Bergland (north-western Germany). The track bearing intertidal biolaminates are always in close contact to the yellow sabkha dolomites. The trackways of *Rhynchosauroides* are more abundant in the lower intertidal (*Rhynchosauroides* ichnofacies), whereas *Procolophonichnium* occurs more in the upper intertidal to lower sabkha environments (*Procolophonichnium* ichnofacies). Generally the biolaminates built trampled horizons, which even in drill cores can be expected to find. From the Hunte-Swell to the Bielefeld-Bay the track levels are reduced as a result of the palaeogeography (see Fig. 4). Locality numbers identical to Fig. 1.



Iguana lizard made in intertidal flats western Abu Dhabi (Diedrich & Gardner 2004), which were subsequently compared to the Triassic ones of Germany (Diedrich 2005).

The fossil vertebrate tracks include *Rhynchosauroides tirolicus* Abel, *Procolophonichnium haarmuehlensis* (Holst, Smit, Veenstra) as well as scratch marks produced by the body scales of the small reptiles in the Triassic biolaminates. Astonishing is the similar preservation types of fossil and recent reptile tracks in (ancient versus modern) carbonate tidal flat environments. The variable shape of the tracks depends on the sediment water content. Swimming scratch marks are present in channels or ponds. In the lower intertidal tracks are printed deeply without detailed imprint structures. In slightly dry upper intertidal environments the dermal scales can be imprinted. Finally, on nearly dry mats only claw marks are preserved (Diedrich 2005). These strong variations (also tail marks can be present or absent) confuse the ichnotaxonomy of fossil track ichnospecies. For example, and in this author's opinion, too many *Rhynchosauroides* track ichnospecies have been published for the Triassic and therefore must be revised.

Eight of the 14 track beds display extended megatracksites with a span of tens to some hundred kilometres, (Rhenish Massif, Vindelizic Massif) seemingly spanning the entire southern Germanic Basin on the coastal zone. Some wide-spanned track beds (Fig. 3) are more common in the western region. This is a result of shallower water depth on the Hunte Swell and a flat carbonate ramp with its deeper parts to the east. To the west (in the Netherlands) the typical Lower Muschelkalk subtidal "Wellenkalk" rock type disappears and the facies is dominated by biolaminates. Many more track beds are therefore present in the lower part of the Lower Muschelkalk (so4-muOo) at the site Winterswijk (ten track beds), than in the Osnabrücker Bergland (six track beds) (cf. Diedrich 2001a).

Figure 3. Part of a trampled horizon from the Graue Zwischenmittel in the Oolithic zone (muOo) of the Lower Muschelkalk at the site Borgholzhausen-Sports field (track horizon 14, cf. Diedrich 2002b). On a few square meters about 400 imprints of the ichnogenus *Rhynchosauroides* are preserved as positives. In most cases the imprints cannot be figured as trackways, as a result of over trampling. The biolaminates are cracked in polygons of about 30-50 cm. The track slab is exposed in the ErdZeitMuseum Borgholzhausen (excavated by PaleoLogic). The largest pes imprint is about 12 cm in size.

The result is now a different and more precise picture exists for the bathymetry during the Bithynian to Illyrian at the northern margin of the Rhenish Massif. In a first step, shown here as an example, is the area of the Osnabrücker Bergland with 20 track sites the new palaeogeographic picture of the western Germanic Basin in the Hunte Swell region (Fig. 4). The track bed stratigraphy in the Osnabrück region is key to the palaeogeographical understanding of the Lower Muschelkalk from Winterswijk (Western Germanic Basin) to North Hessia (Central Germanic Basin), as is the distribution of tidal flats in the entire Germanic Basin during the Muschelkalk (Middle Triassic) period.

A palaeogeographical map of the tidal flats and sabkha concerning the track beds is presented for the Osnabrück region north of the Rhenish Massif (Fig. 4). During the Upper Bunter/Lower Muschelkalk the region around Osnabrück must have been a sabkha in which biolaminates and upper intertidal zones were present. At three sites (Westerkappeln-Schachsel, Hagen-Silbersee, and Grambergen 1) some vertebrate tracks were found in laminated yellow dolomites and in grey biolaminates. During the Basiskonglomerate Member (muK) (in the west) intertidal flats were present in the Niederseeste 1 and 2 region. Those megatracksites cannot be followed further east. In the Bissendorf region (Sehl Berg, Eistruper Berg) another more regional track bed at the top of muW1B is present: this does not reach more farther east. Below the Oolithic Member (muOo) the most widely spanning megatracksites are found. This track horizon is found in the Teutoburger Wald (Diedrich 2000a, 2002b) and carries into the Bielefeld region. Also broadly spanned is the megatrack site situated between both Oolithic beds. In the Graue and Gelbe Zwischenmittel, track rich biolaminates are observed in the Osnabrück Mountains, except in the Bissendorf area. This megatrack site is distributed over 150 kilometres around the northern and eastern part of the Rhenish Massif (cf. Diedrich 1998b). In the western part of the Osnabrücker Bergland four track levels reside below the *Spiriferina* Bed of the muW2A-C. Those again do not reach Bielefeld Bay. Below the Upper Terebratula Bed only a western, thin track bed observed at the Hollage

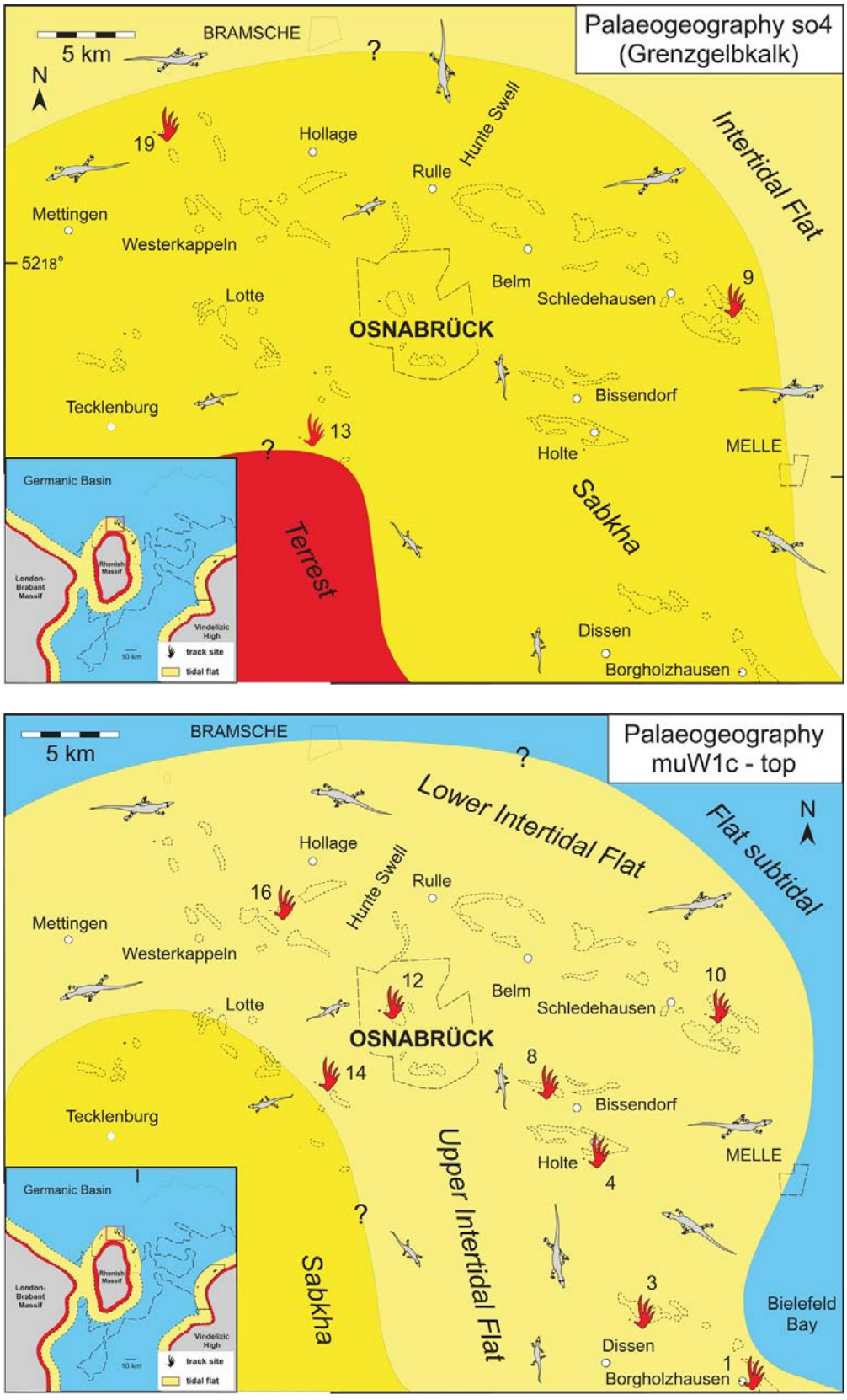


Figure 4. Sabkha/intertidal flats in the Osnabrücker Bergland during the Lower Muschelkalk (Middle Triassic). The sabkha and tidal flat zones must have interfingered much more and were moving during the sea level changes. Here the situation during the muOo-Zwischenmittel period is sketched. Nine track sites are recognized from this time (muW Ic). This belt must have been present in this spreading during the low stands in the Lower Muschelkalk.

suggests another track-rich tidal-flat megatrack site. In the western locales the region must have been (at the time of the top of the muW3) a sabkha facies: to the east it becomes a tidal flat containing another megatrack site which can be followed to the middle of the Teutoburger Wald (Northwestern Germany) and even to northern Hessia (Central Germany). With the beginning of the Middle Muschelkalk, two track beds are developed in the *orbicularis*-Schichten (mm1). Those ones are again widely distributed in the western Germanic Basin (cf. Diedrich 2002e).

The tidal flats and sabkha must have been the primary habitat of two different specialized medium to small reptile species (Diedrich 2001b). The track maker of *Rhynchosauroides* (Fig. 4), possibly the prolacertilian *Macrocnemus* (Fig. 5) must have searched for food mainly in the lower intertidal zone. Crustaceans of the tidal flats (cf. Diedrich & Schulz 2003), worms and other marine animals seemed to be its nutrition source. This reptile could swim through ponds and channels, which is proven by the presence of swimming trackways and many claw scratch marks. The smaller reptile, possibly *Sphenophargus*, left the tracks of *Procolophonichnium*, but more in the upper intertidal to lower Sabkha environment. One of its skeletons was found in-between the track beds at the site Winterswijk (Diedrich 2002b).

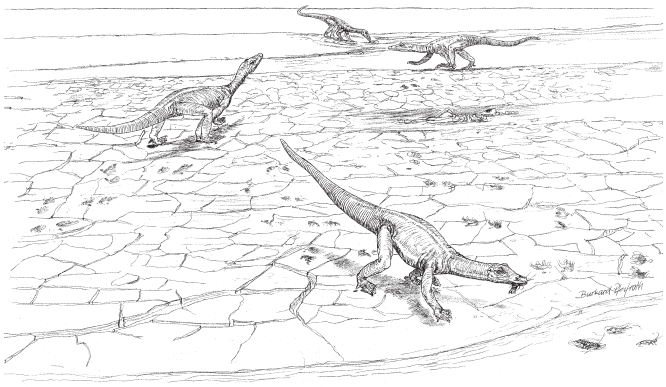


Figure 5. *Macrocnemus* in a mud cracked carbonate tidal flat covered by bio films and cut by tide channels and ponds, in which marine invertebrates (here the crustacean *Clytiopsis*) and vertebrates were caught in these traps being the food for prolacertilians. Daily tide change and the activities of many animals of different age left thousands of tracks around the whole Germanic Basin during the Middle Triassic (Lower to basal Upper Muschelkalk; Illustration © Burkard Pfeifroth, Reutlingen).

Acknowledgements

First of all, I would like to thank H. Escher and T. Kluttig from the Geopark *Terra.Vita* for collecting permission in the Osnabrücker Bergland at the natural and monumental protected areas. I would like to thank J. Gores who assisted in the field at the site Hagen during the systematic excavations for the Museum für Natur und Umwelt Am Schölerberg Osnabrück. I am also grateful to Dr. M. Bertling of the Westfälische Wilhelms-Universität Münster to store the few material from most Westphalian sites. The ErdZeitMuseum Borgholzhausen exposes a large track slab of the authors excavations, which was possible made by K.-H. Beune. The material from Lower Saxony sites was mainly deposited in the Museum für Natur und Umwelt Osnabrück. Financial support for field work at the site Hagen-Silbersee was provided by A. Leipner of the Museum für Natur und Umwelt Am Schölerberg Osnabrück. The complete research was founded by the DFG ("Megatracksites in Triassic carbonate tidal flats of Central Europe", DFG DI 912/2-1 and DI 912/3-1). The illustrations of the *Rhynchosauroides* trackway makers were thankfully done by B. Pfeifroth.

References

Diedrich, C. 1998b. Vertebrate track ichnofacies types of the Oolith Member (Lower Muschelkalk, Middle Triassic) in the central Teutoburger Wald (NW-Germany) and their stratigraphical, facial and palaeogeographical significance. Zentralblatt für Geologie und Paläontologie I 1998 (7-8), 1-15.

Diedrich, C. 2000a. Wirbeltierfährten aus dem Unteren Muschelkalk (Mitteltrias) des Osnabrücker Berglandes und Teutoburger Waldes (NW-Deutschland) und ihre stratigraphische und paläogeographische Bedeutung im Germanischen Becken. Neues Jahrbuch für Geologie und Paläontologie Abhandlungen 217 (3), 369-395.

Diedrich, C. 2000b. New vertebrate track sites in the Lower Muschelkalk of the Germanic Basin. In: Sachs, S. and Windolf, R. (eds.): First Symposium on European Dinosaurs. Düsseldorf 14-18 March 2000, 8-9.

Diedrich, C. 2001a. Vertebrate track bed stratigraphy of the Upper Bunter and basal Lower Muschelkalk (Middle Triassic) of Winterswijk (East Netherlands). Geologie en Mjinbouw/Netherlands Journal of Geosciences, 80 (2): 31-39.

Diedrich, C. 2001b. Auf den Spuren von *Rhynchosauroides* und *Procolophonichnium* in den Karbonatwatten der Germanischen Trias - neue Ergebnisse zur Ichnotaxonomie, Stratigraphie und Verbreitung. Terra Nostra 01/6, 148-150.

Diedrich, C. 2001c. Megatracksites in Triassic carbonate tidal flats of the Germanic Basin in Central Europe and their consequences onto the palaeogeography and sequence stratigraphy. Schriftenreihe der Deutschen Geologischen Gesellschaft Heft 14, 41-42.

Diedrich, C. 2002a. Wirbeltierfährten aus dem Unteren Muschelkalk von Geilsdorf (Thüringen). - Neues Jahrbuch für Geologie und Paläontologie, 2002 (2): 75-91.

Diedrich, C., 2002b. Die Ausgrabungsergebnisse der Wirbeltierfährtenfundstelle aus der Oolith-Zone (Bithyn, Unterer Muschelkalk) von Borgholzhausen (Teutoburger Wald, NW-Deutschland). Paläontologische Zeitschrift, 76 (1): 35-56.

Diedrich,C.2002c.FeinstratigraphischeUntersuchungenderWirbeltierfährtenhorizonte des Unteren Muschelkalkes am Westerberg in Osnabrück (NW-Deutschland). Osnabrücker Naturwissenschaftliche Mitteilungen, 27: 21-38.

Diedrich, C. 2002d. Megatracksites in middle Triassic carbonate tidal flats in Central Europe - the sensation - trackmakers in-between trackbeds. Journal Vertebrate Paleontology, 22 (3), Abstracts: 49A.

Diedrich, C. 2002e. Vertebrate track bed stratigraphy at new mega track sites in the Upper Wellenkalk Member and *orbicularis* Member (Muschelkalk, Middle Triassic) in carbonate tidal flat environments of the Western Germanic Basin. Palaegeography, Palaeoclimatology, Palaeoecology, 183 (2002), 185-208.

Diedrich, C. 2005. Actuopalaeontological trackway experiments with *Iguana* on intertidal flat carbonates of the Arabian Gulf - a comparison to fossil *Rhynchosauroides* tracks of Triassic carbonate tidal flat megatracksites in the European Germanic Basin. Senckenbergiana maritima, 35 (2): 203-220.

Diedrich, G. & Gardner, A.S. 2004. Lacertilian trackway experiments in the carbonate tidal flats of Al Dabb`iya, western Abu Dhabi, U.A.E. Tribulus, Journal of the Emirates Natural History group, 13 (2): 23-28.

Diedrich, C. & Schulz, M. 2003. Ein erster Nachweis eines seltenen fossilen Krebses

Clytiopsis elegans Bill im Obersten Röt (Anis, Untertrias) von Schachten, Nordhessen (NW-Deutschland). Philippia, 11 (2): 103-108.

Feldwisch-Drentrup, H. 1979. Der Dom zu Osnabrück. - In: Römisch Germanisches Zentral-Museum (Hrsg.): Führer zu vor- und frühgeschichtlichen Denkmälern. Bd. 43. Das Osnabrücker Land II. Beiträge zur Geschichte und Kunstgeschichte der Stadt Osnabrück, 31-43.

Götz, A., Feist-Burkhardt, S. 1999. Sequenzstratigraphische Interpretation der Kleinzyklen im Unteren Muschelkalk (Mitteltrias, Germanisches Becken). Zentralblatt für Geologie und Paläontologie Teil I 1997 (7-9), 1205-1219.

Groetzner, J.-P. 1984. Unterer und Mittlerer Muschelkalk. In: Klassen, H. (ed.): Geologie des Osnabrücker Berglandes, Rasch Verl., Bramsche, 153-168.

Kendall, A.C. 1979. Continental and supratidal (Sabkha) evaporites. 145-157. In: Walker, R.G. (ed.): Facies models. Geoscience Canada, Reprint Series 1.

Knaust, D. 1997. Die Karbonatrampe am SE-Rand des Persischen Golfes (Vereinigte Arabische Emirate) - rezentes Analogon für den Unteren Muschelkalk der Germanischen Trias? Greifswalder Geowissenschaftliche Beiträge, 5, 101-123.

Knaust, D. 1998a. Trace fossils and ichnofabrics on the Lower Muschelkalk carbonate ramp (Triassic) of Germany: tool for high resolution sequence stratigraphy. Geologische Rundschau 87, 21-31.

Knaust, D. 1998b. Signatures of tectonically controlled sedimentation in Lower Muschelkalk carbonates (Middle Triassic) of the Germanic Basin. Zentralblatt für Geologie und Paläontologie, I, 1998 (9-10), 893-924.

Kramm, E. 1994. Stratigraphie des unteren Muschelkalks im Germanischen Becken. Geologica et Palaeontologica, 31, 215-234.

Langer, A. 1989. Lithostratigraphische, technologische und geochemische Untersuchungen im Muschelkalk des Osnabrücker Berglandes. Mitteilungen des Geologischen Institutes der Universität Hannover 29, 1-114.

Langer, A. & Bosbach, K., 1994. Geologie des Botanischen Gartens Osnabrück. Schriftenreihe des Botanischen Gartens Osnabrück 6, 1-40.

Lockley, M.G. & Pittman, J.G. 1989. The Megatracksite Phenomenon: implications for Paleoecology, Evolution and Stratigraphy. Journal of Vertebrate Paleontology 9, 30A.

May, A. 1996. Mikrofazies und Zyklizität der Wellenkalk-Formation (Unterer Muschelkalk) von Osnabrück (Norddeutschland). Zentralblatt für Geologie und Paläontologie, I, 1996 5/6: 521-532.

Rosenfeld, U. & Thiele, I. 1992. Der untere Muschelkalk am Nordrand der Rheinischen Masse - Fazies und Mächtigkeiten. Neues Jahrbuch für Geologie und Paläontologie Monatshefte, 1992 (8), 487-512.

Thiele, I. 1990. Der Untere Muschelkalk am Nordrand der Rheinischen Masse. - Dissertation Universität Münster: 112 S., Münster (unpublished).

Jacob Benner

Department of Geology, Tufts University

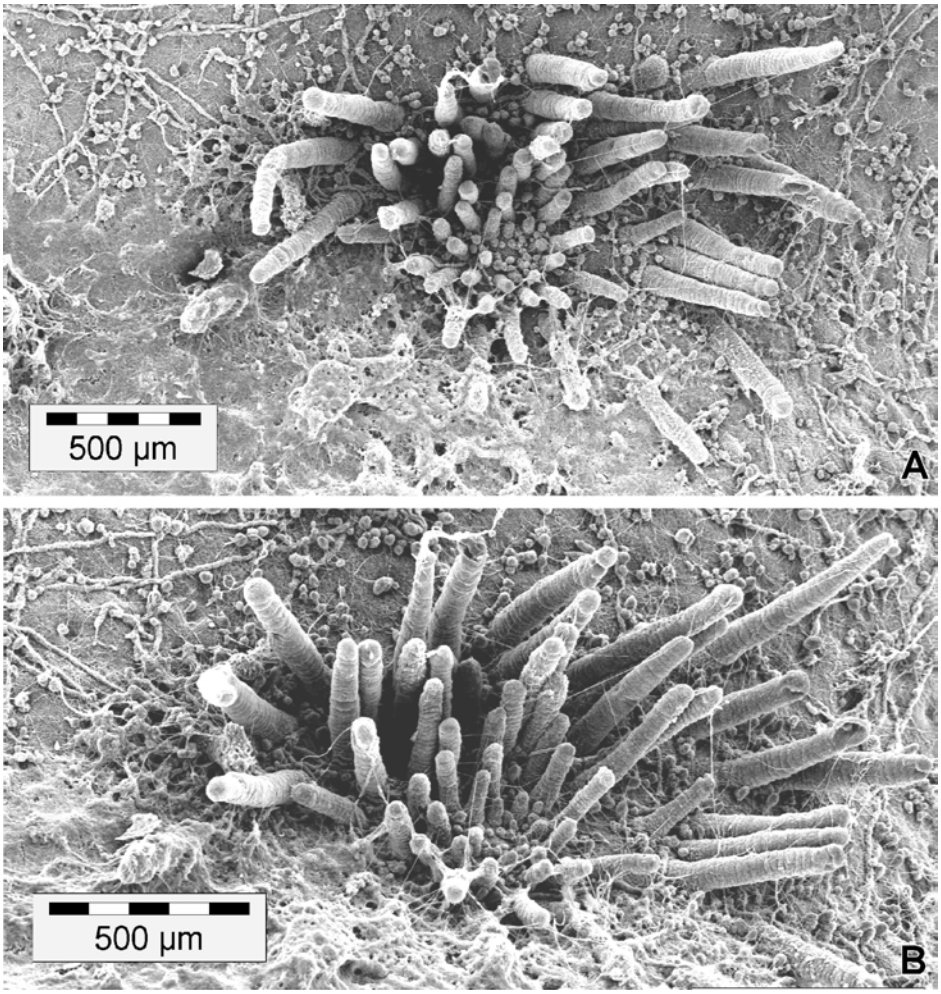
Since arriving in New England I've taken up some new and exciting pursuits. The local Mesozoic basins have been a source of historical and scientific interest. Slowly coming along is an ethical tale on the James Deane – Edward Hitchcock dispute over the first "scientific" description of the trackways of the Connecticut River Valley, as well as a detailed account of the ingenious observations of the naturalist-doctor Deane. I've also taken a recent interest in the lack of fish trails (*Undichna*) reported from the Mesozoic section of New England. With some help from Kate Wellspring at the Pratt Museum in Amherst, MA, I identified a lone *Undichna* specimen among their extensive Hitchcock collections. Hitchcock had originally named this trail *Cochlea archimedea* but that name, apparently immediately, fell out of use. I am in the process of defining the scope of a project involving fish trails from these sections.

Our major project on the fish front has involved trace fossils from late Pleistocene glacial varves of New England. One abstract was published in 2004 (http://gsa.confex.com/gsa/2004AM/finalprogram/abstract_74391.htm) and we are working on a manuscript that summarizes results of three summers of field and lab work (with colleagues Jack Ridge, Tufts Univ. and Natasha Taft, UMASS-Amherst). This study includes paleobiogeographic, paleoecologic, ichnotaxonomic and ethologic implications of fish-produced trace fossils from late Pleistocene glacial lakes of New England. We hope to extend this type of work into other glacial sections, including those from glacial Lake Missoula, Montana. In fact, Bob Frey, in a 1987 interview with Andy Rindsberg (Ichnology Newsletter, 1999), mentioned that it was the multitude of trace fossils in the varves of glacial Lake Missoula that originally piqued his interest in the subject while an undergraduate at the University of Montana. We have recently obtained evidence of fish-produced trace fossils in these same sediments and look forward to exploring them further. We hope that detailed analyses of glacial trace fossil suites, combined with high resolution stratigraphy, will provide a more complete record of rates of ecological change occurring at times of rapid climate change.

Richard G. Bromley

Geological Institute, University of Copenhagen

The old pensioner is continuing to publish material both old and new, usually together with other colleagues. At the Ichnia Congress it became apparent that I am now one of the few Ichnologists that is interested (and unspeciallized) in ALL ichnology. But I must admit to a special liking for bioerosion! The picture is of a *Podichnus obliquus* Robinson, in press, the etching trace of the brachiopod *Terebratulina retusa* that encrusted a Pleistocene bathyal coral, seen as an epoxy cast. The microborings following the surface of the substrate are of endolithic fungi.



Luis Buatois

University of Saskatchewan, Saskatoon, Canada

Life has been very busy since our move to Canada in 2004. Fortunately the University of Saskatchewan offers a great environment to do research and to teach. I keep on working in some of my "old" projects and adding some new ones. Part of my research is focused on the ichnology of the Precambrian-Cambrian boundary. A couple of papers have been published on the evolutionary implications of the earliest Cambrian Puncoviscana ichnofauna of northwest Argentina (Palaios 2003; Fossils and Strata 2004). Also, a general paper on the ichnology of the transition was published with Dolf Seilacher and Gabriela Mángano (Palaeo-3 2005). An appendix includes descriptions of different trace fossils, including a review on *Oldhamia* ichnospecies. Present work on Precambrian-Cambrian ichnofaunas is being done in cooperation with Sören Jensen. Master student Patricio Desjardins is looking at Lower Cambrian sedimentary facies and trace fossils of the Gog Group in the Canadian Rockies.

Working on late Paleozoic ichnofaunas is also very exciting. Together with Renata Netto, Gabriela Mángano and Patricia Balistieri, we have analyzed some controversial glacially-related Carboniferous-Permian ichnofaunas from Brazil and Argentina. Results of this project will be published in Geology later this year. Our observations suggest that freshwater conditions in fjord-like settings across South America were widespread because Gondwanan basins were overwhelmed by strong meltwater discharge issuing from melting of the continental ice masses. Together with Nic Minter, Spencer Lucas, Simon Braddy and Joshua Smith we document Permian tidal flat traces from New Mexico that are remarkably similar to those produced by the modern polychaete *Paraonis fulgens*. This discovery has some interesting implications in macroevolution and is being published in Geology.

Nonmarine ichnofaunas continue to be a topic of interest. Work in Miocene fluvial ichnofaunas from the Bolivian foreland basin was presented in Ichnia 2004 and is in press in an SEPM Special Publication (coauthored by Cornelius Uba, M. Gabriela Mángano, Carola Hulka and Christoph Heubeck). A review paper was written for William Miller's book. PhD student Jenni Scott is doing ichnologic and taphonomic research in Kenyan lakes.

The ichnology of Cenozoic shallow- and marginal-marine ichnofaunas is another promising field. Noelia Carmona finished her PhD on the ichnology of the Miocene Chenque Formation of Patagonia and a number of papers are now in press or in review summarizing her work. Work in progress includes documentation of Miocene deltaic ichnofaunas from Venezuela based on subsurface data and Cenozoic marine ichnofaunas from Chile based on outcrops.

The SEPM Special Publication containing papers presented in Ichnia 2004 is almost there. I enjoyed helping to organize the meeting and co-editing the book with Richard Bromley, Gabriela Mángano, Jorge Genise and Ricardo Melchor. Finally, more work to do as recently elected president of the Ichnological Society, fortunately with the continuous support of fellow travelers Duncan McIlroy and Jordi de Gibert.

Gerhard C. Cadée

Royal Netherlands Institute for Sea Research

For Miller's book I wrote a chapter (with Roland Goldring as coauthor) "The Wadden Sea, cradle of invertebrate ichnology" dealing with the role of Rudolf Richter , founder of Senckenberg am Meer in Wilhelmshaven, Walter Haenzschel, most famous for his contribution on Trace fossils for the Treatise of Invertebrate Paleontology, Dolf Seilacher and others who all started ichnological work in the Wadden Sea.

I include below an image from a North Sea beach on the Wadden Sea Island Texel where I live. It shows a common shore crab *Carcinas maenas* trying to hide itself on the beach.

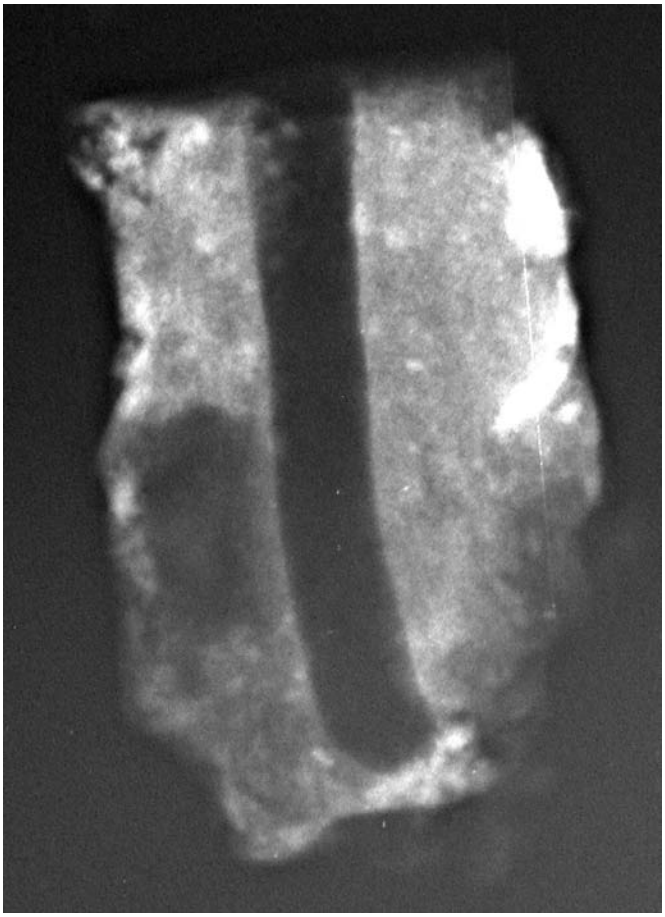
Shahin Dashtgard

Alberta Geological Survey

My present research is focused in two areas. Firstly, I am further developing some of the ideas from my PhD research with an assessment of the neoichnological signature of gravel-dominated deposits in the Bay of

Fundy, Canada. The purpose of this research is to provide both insights into the ichnology of conglomerates and to better constrain grain-size controls on ichnocoenoses. Secondly, my work at the AGS is an assessment of carbon dioxide (CO_2)-enhanced oil recovery and sequestration potential in the sand- and conglomerate-dominated Cardium Formation. This research presents the opportunity to use ichnology to better constrain the depositional environment of the Cardium, and to refine the reservoir model used to determine CO_2-injection and storage capacities. In particular, we have been able to determine that the reservoir compartmentalization incorporated into the model at the injection site does not reflect regional trends, but localized deposition and preservation of shale beds within predominantly sandy lower shoreface sands.

Dashtgard Figure. A. *Rosselia* in Cardium core. B. Xray image of a terebellid burrow in gravel.



Aside from that I have the pleasure of co-editing the Ichnology Newsletter with Murray, and will likely get involved with the planning of IIW9!

Tony Ekdale

University of Utah

My ichnologic work creeps along at the inexorable pace of a happy-go-lucky *Olivella* creating *Olivellites* across a languid sand flat. Some recently or nearly completed projects include studies of Paleozoic endoskeletal symbionts (with Leif Tapanila), opportunistic ichno-pioneers following a Devonian bolide impact (with Leif Tapanila and John Warme), Triassic fluvial ichnocoenoses (with Rose Difley), and Jurassic eolian ichnofacies (with Richard Bromley and Dave Loope). Works in progress include studies of African graphoglyptids (with Beth Gierlowski-Kordesch) and endocranial ichnofabrics inside the mud-filled heads of dead vertebrates (with Matt Colbert and Eric Ekdale). Some forthcoming projects (still top secret) will be initiated shortly with Rick Urash and Michelle Mary. In my rare spare time (and far out of ear shot of certain friends of mine in Denmark, Spain and New Zealand), I continue my attempts to create beautiful music from beautiful trace fossils.

Murray Gingras

University of Alberta

I am presently engaged in research focussed on neoichnology in marginal-marine settings. And lately, I have become interested in lacustrine settings. I am still engaged in palichnological studies in Cretaceous and Miocene units and continue to devlop methods in permeability and porosity in bioturbated rocks.

My collaborations have been very rewarding. I still work closely with George Pemberton, and have developed wonderful research relationships with Kerrie Bann, Shahin Dashtgard, Stephen Hubbard, James MacEachern, Matti Rasanen and John-Paul Zonneveld.

My students are very active and I was pleased to graduate Robert Grover, Barton Blakney, and Nadine Pearson (all MSc). Before I knew it, Nadine was off to work with Gabriela in Saskatchewan. Shahin Dashtgard was also unleased this year: he finished his PhD on neoichnology and sedimentology.

Gingras Figure. Resin cast taken by Sarah Gunn in the Ogeechee River area in the summer of 2006. The large traces were constructed by crabs and the smaller ones by polychaetes.

My active projects include the sedimentology and ichnology of Tillamook Bay (Lidia Zabcic), Kouchibouguac Bay (Tyler Hauck), the Ogeechee (Sarah Gunn) not to mention some wee neoichnological projects I maintain by myself. Working on the more theoretical side of neoichnology are PhD candidates Marilyn Zorn and Lynn Dafoe. I have a new interest in microbially mediated flocculation: that interest is managed by Ozlem Suleyman. On fartyher out projects Larry Amskold (burrow dolomite) and Ernesto Pecoits (BIFs) lead the charge. Working on core studies in the Western Canadian Basin are MSc candidates Kevin Balshaw and Ryan Lemiski. Finally Pemberton and I have hired 2 post docs: BC Yang (neoichnology) and Jussi Hovinoski (permeability studies).

Dirk Knaust

Statoil

My current activities include the following topics:

1. Review of the invertebrate ichnofauna in Middle Triassic, shallow marine carbonates (Muschelkalk) of Germany. – A review article (Knaust in press) summarises the current knowledge of ichnotaxa from the Muschelkalk succession of Germany, but continuously collected material promises to shed more light on some rare or debatable ichnotaxa (cf. Knaust 1998, 2002, 2004), for instance *Balanoglossites*, *Trypanites*, *Zoophycos*, *Rhizocorallium*, *Protovirgularia*, *Mixoteichichnus* and *Coprulus* (Fig. 1A, B).

2. Meiobenthic trace fossils, interconnected with an exceptionally preserved fauna from the Upper Muschelkalk (Middle Triassic) of Germany. – This is a relatively new field in ichnology, dealing with a Fossillagerstätte that contains thousands of tiny trace on micritic bedding planes. Due to the circumstances that in many cases the tracemakers are preserved at the terminations of the traces, assignment to a diverse meiofauna (e.g. foraminifers, crustaceans, nematodes etc.) is possible (Fig. 1C, D). Knaust (in press) gives a first overview, although the detailed documentation, description, ichnotaxonomical treatment as well as interpretation will take a while.

3. Invertebrate ichnofauna of the Lower Triassic (Buntsandstein) of Germany. – The ichnodiversity in Lower Triassic Playa deposits was demonstrated in a case study (Knaust & Hauschke 2005). A critical point in this kind of stressed environment is the differentiation of trace fossils and pseudofossils, which is not always straight forward (Knaust & Hauschke 2004). New material has been continuously collected and will be the subject of further studies together with my co-worker Dr. Norbert Hauschke from the University of Halle/Saale (Germany).

4. Ichnofabrics in core slabs from the Mesozoic of the Norwegian continental margin. – Ichnofabrics have been routinely used by petroleum geologists to characterize hydrocarbon reservoirs. Based on the study of hundreds of meters of core, they contribute to a better understanding of the depositional environment, to identify key surfaces for sequence stratigraphic interpretation and correlation, and so forth.

5. *Zoophycos* around the Permian/Triassic boundary and its producer. – Since the oldest Mesozoic nearshore *Zoophycos* occurs in the Middle Triassic (Knaust 2004), I also became interested to find the youngest Palaeozoic *Zoophycos*. The Empty Quarter Desert in Oman released some noteworthy specimens from the Middle Permian, which exhibit a striking similarity to the Muschelkalk *Zoophycos*, Both *Zoophycos* appear as compound trace fossils that contain bioprints which allude to their assumed producer.

Knaust Figure. Trace fossil examples from the Middle Triassic Muschelkalk of Thuringia/Germany. **A –** Micritic hardground riddled by large *Balanoglossites* isp. (pre-omission suite) and tiny *Trypanites weisei* borings. Quarry Lohma near Weimar, Lower Muschelkalk, Upper Oolithe Bed. **B –** Micritic firmground with *Rhizocorallium jenense*. **C, D –** Micrite surface with meiobenthic trace fossils preserving their producers at the terminations. Quarry Troistedt near Weimar, Upper Muschelkalk, *Ceratites evolutus* Zone. Image width = 4.5 cm in C and 2 cm in D.

Ludvig Löwemark

Department of Geosciences, National Taiwan University

The National Science Council of Taiwan has granted me funding for the next three years to work on late Quaternary records of climate change, and the impact of bioturbation on high-resolution time series. On the side, more as a hobby, I will also continue to work on trace fossils from the Miocene Taliao Formation in NE Taiwan and other trace fossils that might come my way.

M. Gabriela Mangano

University of Saskatchewan

I am currently working on different ichnologic projects, essentially dealing with evolution of shallow-marine ichnofaunas through the Phanerozoic. At present a series of projects deal with lower Paleozoic ichnofaunas. Some of these include the analysis of extensive Cambrian-Ordovician clastic units in northwest Argentina, including the Lower to Middle Cambrian Mesón Group and the Upper Cambrian-Tremadocian Santa Rosita Formation. Papers on these ichnofaunas have been published recently in Ameghiniana, Ichnos, Fossils and Strata and Latin American Journal of Sedimentology and Basin Analysis. A detailed paleoecologic study of the tide-dominated ichnofaunas of the Mesón Group was published in a special issue of Fossils and Strata. Wave-dominated ichnofaunas of the Alfarcito Member of the Santa Rosita Formation were analyzed in a paper published in Ameghiniana last year. Cambrian ichnofaunas are the topic of Master student Patricio Desjardins, who is doing research in the Gog Group of the Canadian Rockies. Another related project deals with Cambrian ichnofaunas from the Dead Sea area in Jordan together with Olaf Elicki, Richard Hofmann and Rafie Shinaq. I am also interested on the ichnology of Cenozoic shallow-marine clastic environments. Noelia

Carmona recently defended her PhD on Miocene ichnofaunas from the Chenque Formation of Patagonia. Some of this work will be published soon, including a detailed documentation of firmground assemblages in discontinuity surfaces and analysis of the different trace fossils recorded in the Chenque Formation. PhD student Nadine Pearson has started her work in Paleogene ichnofaunas of Patagonia.

I have also spent some time working on the edition of a special issue of Fossils and Strata together with Barry Webby and Luis Buatois. The special issue, published in 2004, emphasizes trace fossils in evolutionary paleoecology and results from a special session held during the First International Palaeontological Congress in Sydney in 2002. Another book in progress is an SEPM Special Publication containing papers presented in Ichnia 2004 together with Richard Bromley, Luis Buatois, Jorge Genise and Ricardo Melchor.

James MacEachern

Simon Fraser University

James is currently exploring the various effects that river-sediment influx into the marine realm has upon the resulting ichnological suites. He is conducting or collaborating on projects that explore the differences between river-dominated, wave-dominated, mixed river-wave influenced and mixed river-tide influenced deltaic successions. He and his graduate students Aaron Des Roches and Cameron Thompson are exploring along-strike variations that occur as the setting changes from a wave-dominated delta front to a non-deltaic strandplain shoreface, specifically in the Lower Cretaceous Falher Member and the Grand Rapids Formation of Alberta.

Another project nearing completion is an assessment of changes in ichnological suites that occur along asymmetric delta lobes (i.e., spatial changes from river-dominated to wave-dominated deposition on the same delta front complex), in association with his graduate student Ms. Cindy Hansen. Other projects include the impact of fluid mud emplacement on trace fossil suites, hyperpycnal-induced salinity fluctuations in prodelta settings, fan delta ichnological characteristics, and differentiation between storm-dominated delta front complexes and storm-dominated shorefaces. In the next several months, James will be collaborating with Murray Gingras on various neoichnological characteristics of the Fraser Delta, particularly comparing endobenthic characteristics of active and inactive (abandoned) lobes of this mixed influence system. He is also involved in a supportive role in several projects spearheaded by Kerrie Bann, George Pemberton, and Murray Gingras.

Anthony J. Martin

Emory University

The past couple of years were filled to the brim with ichnological experiences for me, but I'll try to summarize them, albeit verbosely. My biggest project was the completion and publication of the second edition of my textbook *Introduction to the Study of Dinosaurs* (2006, Blackwell Science), which was expanded to include a few new chapters and many more illustrations. Among the new chapters is one titled *Dinosaur Ichnology*, but rest assured that ichnologic concepts and evidence are woven surreptitiously throughout other chapters as well. I am also putting the finishing touches on a field guidebook, titled *Trace Fossils of San Salvador*, which is intended for university biology and geology instructors to use as an educational resource at the Gerace Research Center (GRC), San Salvador, Bahamas. This guidebook is about 80 pages long, is filled with many descriptions and photographs of San Salvador trace fossils, and has a comprehensive bibliography of ichnologically related studies done in the Bahamas. Hopefully it will be in print by early December 2006, just in time for peak visitation by university groups at the GRC in December-January.

The most exciting aspect of this year is that it was spent outside of the U.S. in Australia. I was hosted (most graciously, I might add) by Patricia Vickers-Rich of Monash University (Melbourne), and it was my first sabbatical from Emory in the 17 years I have been there, so I enjoyed it as much as possible. While in Australia, I worked on an educational-enhancement project that looks at links between indigenous Australian ("aboriginal") tracking methods and rock art that uses ichnologic iconography. The results I hope to publish in the *Journal of Geoscience Education* next year. I definitely will be going back to Australia in upcoming years, if for no other reasons than the pleasant people, relaxed culture, gorgeous landscapes, and excellent wine!

I'm starting to lose track of projects where colleagues have been kind enough to include me, but will single out the interesting ones I'm doing on various aspects of plant, invertebrate, and vertebrate ichnology of New Zealand with Murray Gregory and Kathy Campbell (University of Auckland), which were all the more encouraged by the very successful and well-attended Ichnofabric Workshop there in 2005. The best news for me in a collegial sense is that my long-time regional collaborator (and fellow representative of The Confederate States of America), Andy Rindsberg, is now (and finally!) in an academic position. He'll also be at the University of West Alabama, which means that he now will be rewarded for doing

research with me in the southeastern U.S. Along those lines, we have a co-authored chapter in the upcoming William Miller III *Trace Fossil Concepts* volume about juvenile limulid traces on Sapelo Island (Georgia), and a few Paleozoic trace fossil projects are in the works, too.

Two singly authored papers of mine also came out this year that deal with ghost crab traces, both modern and fossil. One was in the most recent (2006) volume for the Geology of the Bahamas Symposium and was about how insects might use ghost crab burrows as templates for brooding structures, making composite trace fossils. The other, published in *Ichnos*, was about ghost crab resting traces related to respiration and hydration, and is part of my quest to resurrect neoichnology on Sapelo Island (Georgia), where my advisor (Bob Frey) did his classic neoichnological works.

Duncan McIlroy

Memorial University of Newfoundland

The period since the last Ichnology Newsletter has been a very exciting and busy one for me. 2003-4 was largely occupied with first organizing the Lyell Meeting for the Geological Society of London on The Application of Ichnology to Palaeoenvironmental and Stratigraphic analysis at Burlington House, London, which was very well attended by Academia and Industry. Following on from that was the task of editing a 500 page book with the same title, which was very rewarding, both intellectually and through the consolidation of a number of ichnofriendships. I was also at the time looking to move back into academia—from my role as an independent consultant—and was very fortunate to become another member of the ever expanding Canadian ichnological community when I was offered a position at Memorial University of Newfoundland as Canada Research Chair in Petroleum Geoscience. I took up this position in December 2004. Since then I have been building a small research group which spans my research interests from pure ichnology to sedimentology and reservoir modeling. I currently have five research students:

Mike Garton (Ph.D. Candidate) is studying ichnofabrics and sedimentology of the classic Pipe Rock of northern Scotland.

Nikki Tonkin (Ph.D. Candidate) who is working on ichnofabrics and seafloor patchiness in Argentina, Utah & New Zealand- Nikki is a former Murray Gregory student,

Chris Phillips (Ph.D. Candidate) working on seafloor patchiness in deep marine settings. Chris is focused on the Gres d'Annot in the French Alps.

Erik French (M.Sc. Candidate) focused on facies architecture of tide-dominated marginal marine deposits

Allison Moore (M.Sc. Candidate)- Allison works for the Petroleum Board in the province and is working on the sedimentology, diagenesis and reservoir modeling aspects of shoreface systems, with a limited ichnological component as she is a reservoir modeler by training.

I have two adverts out for Ph.D. students to work on the effects of tidal groundwater fluctuations on early diagenesis- on which I hope to impose an ichological angle. These students should start at the end of the year.

One of my students Sarah Needham graduated with her Ph.D in 2005. Sarah was a fantastically productive student (see the Bibliographica Ichnologica) and has now moved on to an environmental job in the UK.

We have also established a CT scanning facility and an experimental neoichnology laboratory, with a chilled marine circulation system at Memorial, with funding from the Canadian Foundation for Innovation. This year has been spent working out ways to adapt the technology for ichnological applications. The lab is at present underused so if you would like to come and use the facility to study rocks, soft sediment cores or lithified cores drop me a note dmc@esd.mun.ca.

My own research is as eclectic as ever, but my main push is on trying to test the limitations of the ichnofabric method and in continuing to investigate the importance of bioturbation in causing weathering of detrital grains. Lastly, 2005 has seen the creation of the Ichnological Association- if you have not joined yet you can find us at www.ichno.org we are hoping that by the end of the year we will be a registered society with a journal.

Radek Mikuláš

Geologicky Ustav ACR

My ichnologic projects supported by domestic grant agencies concern: 1, trace fossils and ichnofabrics of the Ordovician sedimentary sequences in the St Petersburg Region (Russia); 2, ichnology of the Upper Cretaceous oceanic red beds in the Czech part of the Outer Western Carpathians; 3, Root ichnofabrics of the Oligocene and Miocene silcretes of the North Bohemia, Czech republic; 4, Neoichnology of modern floodplain deposits of central Bohemia, Czech Republic.

Renata Guimarães Netto

UNISINOS/PPGeo

I dedicate my attention to invertebrate ichnology, in special to the ichnological content of the Permian and Mesozoic deposits of Paraná Basin (south of Brazil), and the Cenozoic deposits from São Luís-Grajaú Basin (north of Brazil), and coastal plain deposits (south of Brazil). My main interest is applied ichnology, chiefly to paleoecology and sedimentary geology. In the past eight years, I have working with Luis Buatois and Gabriela Mángano in the Rio Bonito/Palermo Formations, using ichnofossils and ichnofabrics to recognize stratigraphic surfaces and to review paleoenvironmental interpretations. We are also comparing Bazilian and Argentinian permocarboniferous sedimentary deposits generated in distinct sedimentary basins, trying to understand how far the gondwanic deglaciation was influent in benthic invertebrate distribution at these basins.

At the same time, I have working with trace fossils from Precambrian-Cambrian boundary, considering their occurrence in sediments from the Camaquã Basin (south of Brazil) and related deposits in south South America. Now, I am working in a review of the Precambrian ichnofauna and vendofauna from Santa Bárbara Formation, which sedimentological evidences suggest brackish water environments, whereas the rest of the deposits of this age in the world represent fully marine environments.

In the field of neoichnology, I use to study coastal areas and in an estuary-like complex with graduate and undergraduate students. Our main objective is to use those modern deposits as analogues to the ancient marginal- to shallow-marine environments recorded in sedimentary rocks that crop out in the south of Brazil.

S. George Pemberton

University of Alberta

Lately I have found myself in the position of collaborating with 3 wonderful people Murray Gingras, James MacEachern and Kerrie Bann. This has been one of the most enjoyable times in my career. I have found that Murray, James and Kerrie have resurrected me and it is a challenge for me to keep up with them. We have been involved in doing fieldwork in Australia on the effect of temperature on trace fossils and in Utah on the applicability of ichnofacies and ichnofabric analysis. Murray, James and myself have a joint research project funded by 5 companies on the ichnological dynamics of the shoreface. Murray and myself also have a 3-company consortium dealing with the effect of bioturbation on tight gas reservoirs. Once again I find myself supervising a large number of remarkable graduate students including PhD students Curtis Lettley, Lynn Dafoe, Marilyn Zorn, Stacey Gibbs, Richard McCrea, Arjun Keswani, Zaki Ali Abdel-Fattah, and Demian Robbins; and MSc students Trevor Hoffman, Kim Robinson, Jon Lamothe, Sarah Gunn, and Scott Reid. Many of these students are jointly supervised by Murray Gingras and I feel very fortunate in having Murray here at the University of Alberta. Murray and I are also directing 2 post doctoral fellows Dr. Dr. ByongCheon Yang and Dr. Jussi Hovikoski. I am continuing to edit *Ichnos* along with Ron Pickerill and we have 3 Special Issues coming out soon. I would like to ask you all to consider sending manuscripts to *Ichnos*. James MacEachern and myself ran a trace fossil short course at the AAPG meeting in Houston and enjoyed the experience very much. It is so much fun to expose people to the joys of ichnology!!!

Leif Tapanila

Department of Geosciences, Idaho State University

This is a transitional year for me, switching from life as a carefree graduate student to an overwhelmed assistant

Tapanila Figure. When the sky has fallen, make a spreite! *Teichichnus* penetrating into the top of the Alamo meteor impact breccia, Late Devonian, Nevada.

professor here at ISU. As time permits, my ichnoresearch continues forth. I am expanding my doctoral research in lithichnology (the study of hard substrate trace fossils) to understand ancient symbioses as preserved by bioclaustration trace fossils and to compare their evolutionary history with bioeroding organisms. Tony Ekdale and I have developed concepts that we hope will establish a framework for discussing these two trace fossil groups, and Mark Wilson and I are making efforts to use these hard substrate trace fossils to address questions on the evolution of adaptive strategies. More basic descriptive research on these groups continues with the help of Jan Ove Ebbestad and Lars Holmer on the record of bioclaustrations and borings in corals and stromatoporoids from Gotland, Sweden. On a different line of research, I am looking at the taphonomic signature of Cretaceous oyster beds in order to understand predator-prey relationships in the Western Interior Seaway. This work, in collaboration with Eric Roberts and with support of Grand Staircase-Escalante National Monument, shows an interesting relationship between the occurrence of Entobia and Oichnus in Pycnodonte shells. And in Nevada, I continue to collaborate with John Warme and Tony Ekdale on the immediate benthic recovery following the Late Devonian Alamo meteor impact. Apparently burrowing animals don't mind being hit by meteors!

Alfred Uchman

Jagiellonian University

In 2004-2005 and the first 7 month of 2006 I took part in two expeditions to Svalbard, Arctic, where I worked on Eocene trace fossils in collaboration with Ron Steel. Together with Nils-Martin Hanken, we discovered numerous trace fossils in a Holocene filling of a fjord in Telemark, Norway. We also made ichnological analysis of Late Ordovician siliciclastics in a part of the Oslo Graben. In Italy I worked on ichnofabrics in a Pliocene sequence in the Parma region, together with Peter Pervesler, and on Late Cretaceous trace fossils in the Genova region. Ichnofauna of the varve clays was studied in Lithuania (with Algirdas Gaigalas) and in Sweden (with Risto Kumpulainen). In Spain, I worked on ichnology of the K/T boundary (together with Francisco Rodriguez-Tovar) and on ichnofabrics in the Lorca Basin (with Nils-Martin Hanken). In Turkey I worked on ichnology of the Tracia Basin with Huriye Demircan (Ankara). A lot of material elaborated or collected in former years is waiting for publications in collaboration with many colleagues (Richard Bromley, Radek Mikuláš, Andrew Rindsberg, Duncan McIlroy, Guocheng Zhang, Platon Tchoumatchenco, Assiunta D'Alessandro, Christian Gaillard). Unfortunately, administration duties delay my work. In the near future I have to concentrate on preparation of the 2nd International Congress on Ichnology.

Onno Werver

Ichnos - Netherlands

Since the spring of 2005 I have been working on the neoichnology of tidal flats at Paesens - Moddergat on the Frisian Coast in the Netherlands. I do this with a group of volontiers in and outside various environmental institutions in the Netherlands. The locality is visited twice a year, resp. in February and in late August. The purpose of this longterm study is to map out habitat areas of benthic organisms by means of their surface traces. By monitoring changes in shape and area we hope to see responses in the regional ecology to sealevel changes and planned gas extraction below the area. Results will be placed on www.ichnos.nl.

In order to recognize different traces in the area, a catalogue/atlas of animals present in the area is being prepared, combined with their traces, burrows and pellets/excrements.

A new ichnological project has been started up this summer on boxcores from tidal channels taken from an area about 10 kilometers to the northwest of Paesens. Focus here is the distribution of traces and burrows in the sedimentary environment.

Andreas Wetzel

Geologisch-Paläontologisches Institut Universität Basel

My ichnological research focusses on two topics, actuaichnology in the South China Sea and Triassic deep-sea sediments in Oman.

South China Sea

The central South China Sea between Vietnam and the Philippines is affected, today as during interglacial times, by seasonal upwelling developing in response to the SW monsoon. However, during glacial times the area off Vietnam is fertilized in addition to upwelling by fluvial input from the Sunda Shelf that is emerged during periods of low sea level. Furthermore, sedimentation rates vary in response to fluvial input and, hence, the burial of organic matter. Based on the high-resolution palaeoenvironmental data, the ichnofabrics as seen in high-resolution X-ray radiographs will be analysed to deduce the influence of organic matter input, the effects

of upwelling versus fluvial fertilization, and long-term changing sedimentation rates.

In addition to the deep-sea, during the last cruise of the German Research Vessel "Sonne" during April and May 2006, I could prepare many X-ray radiographs from cores taken in shallow-water deposits. These cores document the Late Pleistocene transgression of the shelf as documented by paleosols overlain by marine sands and muds – all completely bioturbated. Of special interest are the incised valleys of the paleo-Mekong which are now filled by muds. However, ongoing tectonic movements and sediment reworking by currents and waves provide very variable environmental conditions. How will they affect the ichnofabric? The fresh cores exhibt an interesting ichnofabric (Fig.), how will the more detailed X-ray radiographs look like?

Triassic flysch in Oman

About 3 years ago I had the opportunity to study Triassic deep-sea sediments, mainly turbiditic flysch sequences, in Oman. Within these deposits a highly diverse ichnofauna has been found; it consists of 14 post-depositional and 17 pre-depositional (mainly graphoglyptid) ichnogenera. The ichnocoenosis of the Oman Triassic flysch, therefore, represents the most diverse for the Triassic and jurassic times so far.

The description of two new graphoglyptid ichnogenera and the evaluation of the whole ichnofauna is accomplished in cooperation with Alfred Uchman and Ingo Blechschmidt from Bern who studied the deposits sedimentologically in detail. Further work on *Desmograpton pamiricus* is planned.

Split core from the Vietnam shelf, 30 m water depth. Crustaceans burrows having bulbous irrgeular outlines (top of the picture) were dug into stiff greenish mud and filled afterwards by soft brownish mud. Below a still open *Gyrolithes* burrrow can be seen. This area of the Vietnam shelf was flooded about 8'000 years ago. Scale in centimetres gives depth below actual sediment surface.

UPCOMING EVENTS

October 2006, Geological Society of America: A special technical session, entitled "Fossil Behavior: A Symposium in Honor of Adolf Seilacher", will be held at the upcoming GSA (Geological Society of America) Annual Meeting in Philadelphia, Pennsylvania. At this writing, neither the exact day of the session nor the final list of presentations has been set, but it will occur on one day during the convention week of October 22-25, 2006. This symposium is sponsored by the PS (Paleontological Society) and is convened by Tony Ekdale and Richard Bromley. It will include both oral and poster presentations covering the gamut of animal behavior as represented by the wide spectrum of trace fossils ranging from the Precambrian to the present.

'Fossil Art': Dolf Seilacher's famous and ever-growing exhibition of outstandingly beautiful trace fossils is visiting Scandinavia this year. During the spring and summer it has visited Aarhus (Denmark), Stavanger (Norway) and Bornholm (Denmark). From October 4 to December 3 it will be on view at the Geological Museum, Copenhagen University in Copenhagen, Denmark. Contact **Richard G. Bromley,** Geological Institute, University of Copenhagen, Denmark for more details.

Fifth Argentinean Ichnologic Meeting and Third Ichnologic Meeting of the Mercosur, Ushuaia, Tierra del Fuego, Argentina, March 28-30, 2007 [Eduardo B. Olivero emolivero@ciudad.com.ar]: The Fifth Argentinean Meeting of Ichnology and Third Ichnologic Meeting of the Mercosur will be held in the city of Ushuaia, Tierra del Fuego, Argentina. Since the First Argentinean Meeting, held in Santa Rosa La Pampa, in 1993, all previous meetings of this kind have been quite successful in the task of promoting ichnologic research and exchanging ideas among ichnologists from South America and the rest of the world. Argentina has a strong tradition in ichnology, and for this occasion, we hope to continue the successful results of previous meetings. Participation of ichnologists from all over the world is especially encouraged in order to strengthen links with the rapidly growing South American ichnologic community. Talks and posters covering on all aspects of ichnology will be accepted in the program. This program also includes a post-meeting field trip to the Atlantic shore of Tierra del Fuego to examine the only Cenozoic flysch trace fossils known in Argentina, and a pre-meeting two days course on the applications of Ichnology to petroleum exploration is also planned

Convenors: Laboratorio de Geología Andina. Centro Austral de Investigaciones Científicas (CADIC-CONICET).

*Main objective:*To discuss the latest developments on ichnology, and their relationship to paleobiologic, stratigraphic and sedimentologic studies, promoting exchange of ideas and potential cooperative projects among ichnologists.

Scientific Program: Oral presentations and posters are included in the program. Contributors should submit abstracts according to the following guidelines. Abstracts must be in Spanish, Portuguese or English. The text must be prepared in one page, single column format and single-spaced. Do not include photos, drawings or a reference list. The printing area is 170 x 230 mm. Use: (1) upper case, Times 14, bold, centered, for the title, (2) upper and lower case, Times 12, centered, for the Author name, (3) upper and lower case, Times 10, centered, for the Author address (e-mails may be included), and (4) upper and lower case, Times 12, for the text (justify left and right lines). Send abstracts in Microsoft Word by e-mail to **emolivero@ciudad.com.ar**. Please specify if your contribution is a poster or a talk. An abstract book with all the contributions will be distributed during the meeting. Abstracts must be submitted before December 31, 2006.

For Oral sessions, Power Point presentations are recommended. Available space for poster is 110 (height) x 90 (width) cm.

Pre-Registration: Interested participants should send their pre-registration form to Eduardo Olivero: **emolivero@ciudad.com.ar** .

Costs: Professionals: MERCOSUR: $ 200 (before December 31, 2006). Other countries: U$S 200 (before December 31, 2006). Students: MERCOSUR: $ 120 (before December 31, 2006). Other countries: U$S120 (before December 31, 2006).

Field trip: A three-day post-meeting field trip to Cenozoic marine outcrops in the Atlantic coast of Tierra del Fuego is planned from March 31 to April 2, 2007. Participants will examine shallow marine trace fossils from the Leticia Formation (late middle Eocene) and flysch trace fossils from the Cerro Colorado Formation (late middle Eocene/late Eocene), Oligocene unnamed strata, and Desdémona Formation (late Oligocene/early Miocene). The total cost of the field trip is estimated in U$S 400 (this cost could be reduced depending on the number of

participants). This cost covers transportation, lodgement and meals. Due to restrictions in transportation and lodgement, the minimal number of participants will be 10 and the maximum number, 20 people.

Research Conference: Ichnological Sedimentology: The Integration of Sedimentary Facies and Ichnology (sponsored by SEPM): Price Utah, USA. May 20-26th, 2007.

Convenors: James A. MacEachern, S. George Pemberton, Murray K. Gingras, and Kerrie L. Bann

Field Trip Leaders: Janok P. Bhattacharya and Tom Ryer

We welcome colleagues to attend a SEPM Research Conference that showcases the integration of ichnology and sedimentology/stratigraphy. Principal topics include sedimentary facies analysis, genetic stratigraphy, paleoenvironmental interpretation, and petrophysical characterization of bioturbated reservoirs. Maximum registration is 50. This is a research conference and preference will be given to applicants that have accepted abstracts for oral and poster presentation.

Abstract Deadline to be determined.

Trace Fossils: Concepts, Problems, Prospects: Edited by William Miller III, will be published by Elsevier. The publisher has promised a moderately priced paperback version that will cost about $65-75 USD. Miller is pushing very hard to have the book ready before the end of 2006. It will contain 36 chapters covering nearly every aspect of modern ichnology, by about 54 authors in different combinations, and will probably have 450 pages or so. The first section contains historical sketches. The second consists of chapters that cover concepts, overviews, persistent problems, and connections to other disciplines. The final section presents a collection of chapters that use new approaches or point the way forward. And John Pollard has written a Memorial to Roland Goldring, to whom the book is dedicated.

International Ichnofabric Workshop IX: International Ichnofabrics Workshop, Calgary, Alberta, August 19–26, 2007

Contact: (1) Murray Gingras, University of Alberta. (2) John Paul Zonneveld, Geological Survey of Canada.
Objectives: This workshop is intended to bring together ichnological researchers to share innovations in the area of ichnofabric research. Palichnological applications and neoichnological perspectives will be welcome.

Location: University of Calgary, Calgary, Alberta.

Presentations: Invited talks, oral and poster presentations are planned. Moreover, panel discussion will be organised.

Field trips: (1) Intra-meeting excursions to the Alberta Core Repository. (2) Post-meeting excursion to consider Cambrian, Devonian, Jurassic, and Cretaceous outcrops in the area of Canmore and Banff, Alberta. (3) Post-post meeting excursion to Drumheller to see outcrops of the Horseshoe Canyon Formation and the Tyrell Museum.

Pre-registration deadline: December 1, 2006.

Abstract deadline: Is anticipated to be February, 2007.

Ichnia 2008: Second International Congress on Ichnology, Cracow, Poland, September 1–5, 2008.

Contact: Alfed Uchman.
Objectives:

- to present the main achievements in invertebrate and vertebrate ichnology in the latest years,
- to make a step toward better unification of all fields in ichnology,
- to promote collaboration among ichnologists,
- to visit the best ichnological localities in central and southern Poland.

Location: Jagiellonian University, Cracow (Kraków in Polish), Poland.

Cracow is the old capital of Poland, known from its historical centre with several romanesque, Gothic, and younger monuments, mediaeval royal castle and cathedral (Wawel hill) and the second oldest university in Central Europe (Jagiellonian University) established in 1364, in which geology has been taught since 1782. The Institute of Geological Sciences of the Jagiellonian University houses one of the most important and largest collections of flysch trace fossils, which will be available for the participants.

Presentations: Invited talks, oral and poster presentations are planned. Moreover, panel discussion will be organised.

Field trips:

- Pre-congress field trip (3 days; August 29-31, 2008): Górywitokrzyskie (Holy Cross Mountains), central Poland. Participants will see Cambrian, Devonian and Jurassic marine invertebrate trace fossils,

Triassic and Jurassic continental and marginal-marine invertebrate and vertebrate trace fossils, and spectacular borings along Miocene rocky seashores.

- Intra-congress field trip (1 day; September 3, 2008) in the Cracow region: bioerosion of a Cretaceous abrasional platform, shallow marine Devonian and Lower Carboniferous trace fossils.
- Post-congress field trip (3 days; September 6-8, 2008) in the Carpathians, southern Poland: trace fossils and ichnofabrics in the Cretaceous-Palaeogene pelagic and turbiditic sediments.

Pre-registration deadline: December 15, 2006.

The Editors

Dr. Murray K. Gingras
Department of Earth and Atmospheric Sciences
1-26- Earth Sciences Building
University of Alberta
Edmonton, Alberta T6G 2E3
Canada
telephone: 780-492-1963
email: mgingras@ualberta.ca

Dr. Shahin E. Dashtgard
Alberta Geological Survey
4th Floor, Twin Atria Building
4999 – 98 Avenue
Edmonton, Alberta T6B 2X3
Canada
Telephone: 780-427-9937
Email: sdashtgard@gmail.com

Listed here are subscribers to the *Ichnology Newsletter* and other Friends of Ichnology. Contact one of the editors to be included. This list is posted solely for the purpose of easing contacts among researchers and is not available for commercial use without written permission by one of the editors. Additional contact information can be found in the International Palaeontological Association's *Directory of Paleontologists of the World* at http://ipa.geo.ukans.edu:591/Directory/directory.html .

The primary surname (the one used for alphabetization in references) is given in small capitals; the order is that preferred by the person named. Honorifics (Mr., Mrs., Dr., Prof. etc.) are those chosen by the person. Please let us know of any corrections.

To save space, "http://" has been deleted from website URLs. In most cases, the URL will work without it, but if not, just prefix the missing characters. If multiple URLs are provided, then each URL is separated by the word "AND". Similarly, multiple email addresses are separated by the word "OR" if there is more than one.

Individual Subscribers

Dr. Florencio G. Aceñolaza
Facultad de Ciencias Naturales
Universidad Nacional de Tucumán
Miguel Lillo 251, 4000 San Miguel de Tucumán
Argentina
Telephone/fax: 54-81-236395
Email: insugeo@unt.edu.ar OR facenola@satlink.com

Dr. Guillermo F. Aceñolaza
Miguel Lillo 205, 4000 Tucumán
Argentina
Email: insugeo@unt.edu.ar OR acecha@unt.edu.ar

Dr. A. D. Ahluwalia
Centre of Advanced Study in Geology
Panjab University
Chandigarh 160014
India
Telephone: 91-172-541740
Fax: 91-172-541409
Email: adahl@panjabuniv.chd.nic.in OR adahluwalia@usa.net OR adahluwalia@mailcity.com
Website: www.freeyellow.com/members7/himalayanseminar/index.html AND www.puchd.ac.in

Dr. Jose Javier Álvaro Blasco
upresa 8014
Paléontologie et Paléogéographie du Paléozoïque
Université de Sciences et Technologies de Lille
Laboratoire de Paléontologie – SN5
59655-Villeneuve d'Ascq
France
Telephone: 33-320336392
Fax: 33-320436900
Email: Jose-Javier.Alvaro@univ-lille1.fr

Dr. Silvia Azucena Aramayo
Departamento de Geología
Universidad Nacional del Sur
San Juan 670, 8000 Bahía Blanca
Argentina
Email: saramayo@uns.edu.ar

Dr. Dávid Árpád
Karoly Esterhazy Teacher's Training College
Department of Geography
Leanyka u. 6
H-3301 Eger
Hungary
Email: davida@ektf.hu OR coralga@yahoo.com

Dr. R. J. A. Atkinson
University Marine Biological Station
Millport, Isle Cumbrae
Scotland KA28 0EG
United Kingdom
Email: r.j.a.atkinson@udcf.gla.ac.uk

Dr. Adriaan Bal
c/o Baker Atlas Geoscience
2nd level, Sheraton Court
207 Adelaide Terrace
East Perth, WA 6004
Australia

Prof. Christopher T. Baldwin
Sam Houston State University
Geography and Geology
Box 2148
Huntsville, TX 77340-2148
USA
Email: baldwin@shsu.edu

Dr. Kerrie L. Bann
Ichnofacies Analysis Inc.
Calgary, Alberta
Canada
Telephone: 403-242-8673
Cell phone: 403-969-8673
Website: www.ichnofacies.com

Mr. Michael J. Barden
Geoscience Resources Ltd
7200 Ticonderoga Road NE
Albuquerque. NM 87109-5081
USA
Email: mike_barden@ibm.net

Dr. Eduardo S. Bellosi
División Icnología
Museo Argentino de Ciencias Naturales
Av. Angel Gallardo 470
C1405DJR Buenos Aires
Argentina
Email: ebellosi@sei.com.ar

Mr. Jacob S. Benner
Geology Department
Lane Hall
Tufts University
Medford, MA 02155
USA
Telephone: 617-627-2207
Email: jacob.benner@tufts.edu

Prof. Jan Bergström
Swedish Museum of Natural History
Department of Paleozoology
Box 50007
S-104 05 Stockholm
Sweden
Email: jan.bergstrom@nrm.se

Dr. Markus Bertling
Geologisch-Paläontologisches Institut und Museum
Pferdegasse 3
D-48143 Münster
Germany
Telephone: 49-251-83 239 42
Fax: 49-251-83 248 91
Email: bertlin@uni-muenster.de
Website: www.uni-muenster.de/Geomuseum/

Prof. Leonardo Borghi
Universidade Federal do Rio de Janeiro–UFRJ
Instituto de Geociências
Departamento de Geologia
Av. Brigadeiro Trompowski, s/n., sala G1-43 (CCMN)
21949-900 (Ilha do Fundão), Rio de Janeiro, RJ
Brazil
Telephone: 55-021-598-3293
Fax: 55-021-598-3280
Email: Lborghi@igeo.ufrj.br
Website*:* www.ufrj.br/geologia/icnos.htm AND www.ufrj.br/geologia/proj_leo.htm

Dr. Simon J. Braddy
Department of Earth Sciences
University of Bristol
Wills Memorial Building, Queen's Road
Bristol BS8 1RJ
United Kingdom
Email: S.J.Braddy@bris.ac.uk
Website: info.mcc.ac.uk/Geology/research/palaeo/SJB.html AND palaeo.gly.bris.ac.uk/personnel/braddy/braddy.html

Dr. Leonard Brand
Department of Natural Sciences
Loma Linda University
Loma Linda, CA 92350
USA
Telephone: 909-824-4530 OR 909-824-4300 ext. 48910
Email: lbrand@ccmail.llu.edu

Dr. Brent Breithaupt
Geological Museum
University of Wyoming
Laramie, WY 82071-3006
USA
Email: uwgeoms@uwyo.edu

Dr. D. E. G. Briggs
Department of Geology
University of Bristol
Queen's Road
Bristol BS8 1TR
United Kingdom

Prof. Richard G. Bromley
Geological Institute
University of Copenhagen
Øster Voldgade 10
DK-1350 Copenhagen K
Denmark
Telephone: 45-35-32-24-42
Fax: 45-33-14-83-22
Email: rullard@geol.ku.dk

Dr. Titus Brustur
National Institute for Marine Geology & Geoecology
D. Onciul 23-25
P.O. Box 34-51
R-70318 Bucuresti 32
Romania
Email: geomar@rolink.iiruc.ro

Dr. Luis A. Buatois
Department of Geological Sciences
University of Saskatchewan
114 Science Place
Saskatoon, Saskatchewan S7N 5E2
Canada
Email: luis.buatois@usask.ca

Dr. Stuart Buck
Task Geoscience Limited
Telephone: 44-1224-357250
Email: stuart.buck@taskgeoscience.com
Website: www.taskgeoscience.com

Dr. Gerhard C. Cadée
Netherlands Institute for Sea Research
P.O. Box 59
1790 AB den Burg, Texel
The Netherlands
Telephone: 31-0-222-369499
Fax: 31-0-222-319674
Email: Cadee@nioz.nl

Mrs. Hanna Calner
Department of Geology
University of Lund
Solvegatan 13
S-223 62 Lund
Sweden
Email: Hanna.Calner@geol.lu.se

Noelia Carmona
Paraguay 858
Yerba Buena. C.P. 4107
Tucumán
Argentina
Email: ichnolog@infovia.com.ar

C. Neto de Carvalho
Geology and Paleontology Office
Centro Cultural Raiano
Av. Zona Nova de Expansão, 6060-101 Idanha-a-Nova
Portugal
Email: paleo@walla.com

Dr. Ismar de Souza Carvalho
Universidade Federal do Rio de Janeiro – UFRJ
Instituto de Geociências
Depto. de Geologia
Av. Brigadeiro Trompowski, s/n., bloco G – Prédio do CCMN
Cidade Universitária – Ilha do Fundão
21.949-900 – Rio de Janeiro-RJ
Brazil
Telephone: 55-21-598-3293
Fax: 55-21-598-3280
Email: ismar@igeo.ufrj.br

Prof. Amitava Chakrabarti
Department of Geology and Geophysics
Indian Institute of Technology (I.I.T.), Kharagpur
Pin-721302, West Bengal
India
Email: cgobin@gg.iitkgp.ernet.in

Dr. C. Kent Chamberlain
316 Call Street
Idaho Falls, ID 83402
USA
Telephone: 208-542-6562
Email: ckentc@cableone.net

Mr. James R. Chaplin
Oklahoma Geological Survey
Energy Center, Room 131
100 Boyd Street
Norman, OK 73109
USA
Telephone: 405-325-3031

Mr. Donald R. Chesnut, Jr.
Kentucky Geological Survey
University of Kentucky
Lexington, KY 40506-0107
USA
Telephone: 606-257-5500
Email: chesnut@kgs.mm.uky.edu OR chesnut@fido.mm.uky.edu

Dr. Neil D. L. Clark
Hunterian Museum
University of Glasgow
Glasgow G12 8QQ, Scotland
United Kingdom
Telephone: 141-330-4221
Fax: 141-330-3617
Email: NCLARK@museum.gla.ac.uk
Website: www.gla.ac.uk/~gxha14/

Loïc Costeur
Université Claude Bernard Lyon 1
27-43 Boulevard du 11 Novembre
UMR P.E.P.S. 5125
Bâtiment GEODE, 2 rue Dubois
Bureau 210 (R2)
69622 Villeurbanne Cedex
France
Telephone: 04-72-44-58-10
Email: Loic.Costeur@univ-lyon1.fr

Dr. Nancy I. Craig
Marine Sciences Research Center
State University of New York at Stony Brook
Stony Brook, NY 11794-5000
USA

Dr. T. Peter Crimes
Department of Earth Sciences
University of Liverpool
Jane Herdman Laboratories
Brownlow Street
P.O. Box 147
Liverpool L69 3BX
United Kingdom

Dr. H. Allen Curran
Department of Geology
Science Center, S-R 121
Smith College
Northampton, MA 01063
USA
Telephone: 413-585-3943
Email: ACurran@Science.Smith.edu

Prof. Assunta D'Alessandro
Dipartimento di Geologia e Geofisica
Campus Universitario
Via Orabona, 4
70125 Bari
Italy
Email: tina@geo.uniba.it

Mr. John T. Davey
Plymouth Marine Laboratory
1 Prospect Place
The Hoe, Plymouth
Devon PL1 3DH
United Kingdom
Email: jtd@pml.ac.uk

Dr. Georges R. Demathieu
Institut des Sciences de la Terre
Université de Bourgogne
6 boulevard Gabriel, F-21
100 Dijon
France
Email c/o Pierre Demathieu: pf.demathieu@club-internet.fr

Ms. Huriye Demircan
Ankara University
Department of Geological Engineering
Faculty of Sciences
06100 Tandogan, Ankara
Turkey
Email: demircan@science.ankara.edu.tr

Mr. Bhawanisingh G. Desai
Department of Geology
M.S. University of Baroda
Vadodara-390002
Gujarat
India
Email: bhawanigd@rediffmail.com

Cajus Diedrich
University of Osnabrück
Institute of Culture- and Geosciences
Seminarstr. 19, D-49069 Osnabrück
Germany

Rose Difley
Department of Geology and Geophysics
University of Utah
719 WBB, 135 South 1460 East
Salt Lake City, UT 84112-0111
USA
Email: rldifley@hotmail.com

Ms. Shannon Digweed
12213 46th Street
Edmonton, Alberta T5W 2W5
Canada
Email: sdigweed@gpu.srv.ualberta.ca

Drª. Rosa Domènech Arnal
Departament d'Estratigrafia, Paleontologia i Geociències Marines
Universitat de Barcelona - Campus de Pedralbes
Martí Franqués s/n
08028 Barcelona, Catalonia
Spain
Telephone: 00-34-93-402-13-79
Fax: 00-34-93-402-13-40
Email: domenech@natura.geo.ub.es

Dr. Stephen K. Donovan
Department of Palaeontology
Nationaal Natuurhistorisch Museum, Naturalis
Postbus 9517
2300 RA Leiden
The Netherlands
Telephone: 31-71-56-87-642
Fax: 31-71-56-87-666
Email: donovan@naturalis.nnm.nl

Dr. Steven G. Driese
Department of Geological Sciences
University of Tennessee
Knoxville, TN 37996-1410
USA
Telephone: 615-974-6032
Email: sdriese@utk.edu

Dr. Mary L. Droser
Department of Earth Sciences
University of California
Riverside, CA 92521
USA
Telephone: 909-787-3797
Fax: 909-787-4324
Email: mary.droser@ucr.edu

Dr. Peter C. Dworschak
Dritte Zoologische Abteilung
Naturhistorisches Museum
Postfach 417, Burgring 7
A-1014 Wien
Austria
Email: Peter.Dworschak@nhm-wien.ac.at

Dr. Allan A. Ekdale
Department of Geology & Geophysics
University of Utah
719 WBB, 135 South 1460 East
Salt Lake City, UT 84112-0111
USA
Telephone: 801-581-7266
Fax: 801-581-7065
Email: ekdale@mines.utah.edu

Dr. Frank R. Ettensohn
Department of Geological Sciences
University of Kentucky
Lexington, KY 40506-0053
USA
Telephone: 606-257-1401
Email: geofre@ukcc.uky.edu

Carlos Farinha
Portugal
Email: farinha.c@netcabo.pt

Dr. Mikhail A. Fedonkin
Paleontological Institute
Russian Academy of Sciences
Profsoyuznaya st., 123
117868, Moscow
Russia
Telephone: 059-339-54-77
Fax: 059-339-12-66
Email: mfedon@paleo.ru

Anna Feldman-Olszewska
Polish Geological Institute
ul. Rakowiecka 4
00-975 Warszawa
Poland
Email: aols@pgi.waw.pl

Dr. A. C. S. Fernandes
Museu Nacional
Universidade Federal do Rio de Janeiro
Rio de Janeiro – RJ 20.942-040
Brazil
Email: fernande@acd.ufrj.br

Ana Cecilia Fonseca Escalante
CIMAR
Universidad de Costa Rica
Apdo. 2060, San Pedro
San José
Costa Rica

Tracy L. Ford
P.O. Box 1171
Poway, CA 92074
USA
Email: tlford@ix.netcom.com

Mr. Carl R. Froede, Jr.
2895 Emerson Lake Drive
Snellville, GA 30078-6644
USA
Telephone: 404-562-8550
Fax: 404-562-8518
Email: froede.carl@epamail.epa.gov

Dr. Shaoping Fu
Institut für Geologie
Ruhr Universität Bochum
Universitätstraße 150
D-44801 Bochum
Germany
Email: shaoping.fu@rz.ruhr-uni-bochum.de

Prof. Dr. Franz T. Fürsich
Institut für Paläontologie der Universität
Pleicherwall 1
97070 Würzburg
Germany
Email: franz.fuersich@mail.uni-wuerzburg.de

José Antonio Gámez Vintaned
Universidad de Zaragoza-Gobierno de Aragón
Edificio de Geológicas
Universidad de Zaragoza
C/ Pedro Cerbuna, nº 12
E-50009 Zaragoza
Spain
Telephone: 34-976-762122
Fax: 34-976-761106
Email: gamez@unizar.es

Dr. Georges Gand
UMR 5561 Biogéosciences du Centre National de la Recherche Scientifique (CNRS)
Centre des Sciences de la Terre
Université de Bourgogne
6, Boulevard Gabriel, 21000. Dijon
France
Telephone: 03-80-39-63-50
Fax: 03-80-39-63-87
Email: umr5561@satie.u-bourgogne.fr OR georges.gand@ac-dijon.fr

Dr. Marcos Gektidis
Geologisch-Paläontologisches Institut
J.W.-Goethe-Universität
Senckenberganlage 32-34
D-60045 Frankfurt a.M.
Germany

Dr. Jorge F. Genise
Departamento de Icnología
Museo Paleontológico Egidio Feruglio
Av. Fontana 140
(9100) Trelew, Chubut
Argentina
Telephone/fax: 54-2965-432100
Email: mef002@infovia.com.ar OR jgenise@mef.org.ar
Website: www.ichnia2004.com

M. Jean Gérard
Total Fina Elf
CSTJF - ISS Clastics
Avenue Larribau, F 64018 Pau Cedex
France
Telephone: 33-05-59-83-68-08
Fax: 33-05-59-83-63-82
Email: jean.gerard@elf-p.fr

Mr. Patrick Getty
129 White Oak Road
Springfield, MA 01128
USA
Email: coelurosaurichnus@hotmail.com

Dr. Jordi M. de Gibert Atienza
Departament d'Estratigrafia i Paleontologia
Universitat de Barcelona
Martí Franqués s/n
08028 Barcelona, Barcelon
Spain
Email: gibert@geo.ub.es
Website: www.geocities.com/CapeCanaveral/Hall/3993/index.html

Dr. Michael A. Gibson
Dept. of Geology, Geography, and Physics
University of Tennessee at Martin
Martin, TN 38238
USA
Telephone: 731-587-7435
Fax: 731-587-7434
Email: mgibson@utm.edu
Website: www/utm.edu/~mgibson/home.htm

Dr. Gerard Gierlinski
Pañstwowy Instytut Geologiczny
ul. Rakowiecka 4
00-975 Warszawa
Poland

Dr. Elizabeth H. Gierlowski-Kordesch
Department of Geological Sciences
Clippinger Labs 316
Ohio University
Athens, OH 45701-2979
USA
Telephone: 614-593-1989
Fax: 614-593-0486
Email: gierlows@ohiou.edu

Dr. Ingrid Glaub
Geologisch-Paläontologisches Institut
Johann Wolfgang Goethe-Universität
Senckenberganlage 32-34
D-60325 Frankfurt am Main
Germany
Email: I.Glaub@em.uni-frankfurt.de

Dr. Stjepko Golubic
Biological Science Center
Boston University
5 Cummington Street
Boston, MA 02115
USA
Email: golubic@bu.edu

Prof. Gong Yiming
430074 Earth Science Institute
China University of Geoscience
Wuhan, Hubei 430074
P.R. China
Telephone: 027-7481892
Fax: 027-7801763
Email: ymgong@dns.cug.edu.cn

Dr. Stuart Gowland
Ichron Limited
16 Dalby Court
Gadbrook Business Centre
Northwich, Cheshire CW9 7TN
United Kingdom
Telephone: 01606-46113
Fax: 01606-46114
Email: gowland@ichron.com

Dr. Murray R. Gregory
Geology Department
University of Auckland
Private Bag 92019, Auckland
New Zealand
Telephone: 64-9-373-7599 (7080)
Email: m.gregory@auckland.ac.nz

Dr. Yuri M. Gubin
Paleontological Institute of Russian Academy of Sciences
123 Profsoyuznaya ul.
Moscow, 117647
Russia
Fax: 095-339-1266
Email: vg@paleo.ru

Dr. Yaojun Han
76 MacEwan Park Road NW
Calgary, Alberta T3K 3E9
Canada
Telephone: 403-229-0177
Email: yaojun_han@yahoo.com OR yhan@calcna.ab.ca

Dr. Christoph Hartkopf-Fröder
Geologisches Landesamt Nordrhein-Westfalen
Postfach 10 80
D-47710 Krefeld
Germany
Telephone: 49-0-2151-897256
Fax: 49-0-2151-897505
Email: hartkopf-froeder@mail.gla.nrw.de

Dr. Stephen T. Hasiotis
University of Kansas
Department of Geology
1475 Jayhawk Blvd., Room 120 Lindley Hall
Lawrence, KS 66045-7613
USA
Telephone: 785-864-4941
Fax: 785-864-5276
Email: hasiotis@ku.edu

Dr. Bo Henk
ARCO Exploration & Production Technology
2300 West Plano Parkway
Plano, TX 75075-8499
USA

Dr. Hans J. Hofmann
Department of Geology
Université de Montréal
C.P. 6128, Station A
Montréal, Québec H3C 3JC
Canada
Telephone: 514-343-7699
Fax: 514-343-5782
Email: hofmann@ere.umontreal.ca

Dr. Adrian Hunt
New Mexico Museum of Natural History
1801 Mountain Road NW
Albuquerque, NM 87104
USA
Telephone: 505-841-2841
Fax: 505-841-2844
Email: ahunt@nmmnh.state.nm.us
Website: www.NMnaturalhistory.org

Dr. Sören Jensen
Area de Paleontología
Facultad de Ciencias
Universidad de Extremadura
06071 Badajoz
Spain
Email: soren@unex.es

Mr. Kyungwan Jeong
Department of Geology & Geophysics
University of Utah
135 South 1460 East, Room 719 WBB
Salt Lake City, UT 84112-0111
USA
Telephone: 801-583-0292
Email: Kjeong@mines.utah.edu OR k.jeong@m.cc.utah.edu
Website: www.cc.utah/~kj8807

Dr. Roger L. Kaesler
Paleontological Institute
University of Kansas
121 Lindley Hall
Lawrence, KS 66045-2911
USA
Telephone: 785-864-3338
Fax: 785-864-5276
Email: kaesler@ukans.edu

Jürgen Kappel
Geologisch-Paläontologisches Institut
Westfälische Wilhems-Universtät
Corrensstr. 24
48149 Münster
Germany

Dr. Patricia H. Kelley
Department of Earth Sciences
University of North Carolina at Wilmington
601 South College Road
Wilmington, NC 28403-3297
USA
Telephone: 910-962-7406
Fax: 910-962-7077
Email: kelleyp@uncwil.edu

Prof. Jeong-yul Kim
Department of Earth Sciences
Korea National University of Education
Chongwon, Chungbuk 363-791
Korea
Email: Kimjy@knuecc-sun.knue.ac.kr

Mr. Kim Kyung-soo
Department of Earth Science Education
Korea National University of Education
Cheongwon, Chungbuk 363-791
Korea
Email: ksmsone@cc-sun.knue.ac.kr

Dr. Karl Kleemann
Institute for Palaeontology
University of Vienna
Geocenter, Althanstraße 14
A-1090 Vienna
Austria
Telephone: 0043-1-31336-9780
Fax: 0043-1-31336-784
Email: karl.kleemann@univie.ac.at

Dr. Joanne Kluessendorf
Department of Geology
University of Illinois
1301 W. Green Street
Urbana, IL 61801
USA
Telephone: 217-367-5916
Fax: 217-244-4996
Email: jkluesse@uiuc.edu

Dr. Dirk Knaust
Statoil ASA
N-4035 Stavanger
Norway
Email: dkna@statoil.com

Dr. David C. Kopaska-Merkel
Geological Survey of Alabama
420 Hackberry Lane
P.O. Box 869999
Tuscaloosa, AL 35486-6999
USA
Telephone: 205-247-3695
Fax: 205-349-2861
Email: davidkm@gsa.state.al.us OR dragontea@earthlink.com

Dr. Micha Kowalewski
Department of Geological Sciences
Virginia Tech
Blacksburg, VA 24061
USA
Email: michalk@vt.edu

Dr. Debra Krumm
Natural Resource Ecology Laboratory
Natural & Environmental Sciences Building, B208
Colorado State University
Fort Collins, CO 80523-1499
USA
Telephone: 970-491-1984
Fax: 970-491-1965
Email: dkrumm@nrel.colostate.edu

Dr. Kantimati G. Kulkarni
Geology Group
Agharkar Research Institute
G. G. Agharkar Road
Pune 411 004
India
Email: lib@aripune.ernet.in

Mr. Robert E. Lamond
Department of Geology & Geophysics
University of Utah
719 WBB, 135 S. 1460 East
Salt Lake City, UT 84122-0111
USA
Email: rlamond@mines.utah.edu

Dr. Li Ri-hui
Institute of Marine Geology
Ministry of Geology and Mineral Resources
P.O. Box 18, Shandong
P.R. China

Dr. Jon Lindqvist
Department of Geology
University of Otago
P.O. Box 56, Dunedin
New Zealand

Dr. Ludvig Löwemark
Institute of Earth Sciences
Academia Sinica
P.O. Box 1-55, Nankang
Taipei 115
Taiwan ROC
Telephone: 886-02-2783-9910 ext. 606
Fax: 886-02-2783-9871
Email: ludvig@earth.sinica.edu.tw

Mr. Mark A. Loewen
Department of Geology & Geophysics
University of Utah
135 South 1460 East WBB 719
Salt Lake City, UT 84112
USA
Email: maloewen@mines.utah.edu

Dr. Terrence J. Logue
Department of Physics and Earth Science
University of Northern Alabama
Florence, AL 35632
USA
Email: TLogue@unanov.una.edu

Dr. Gregorio López
Department of Geologia (Paleontologia)
Universitat Autónoma de Barcelona
08193 Bellaterra
Spain
Telephone: 34-93-5811464
Fax: 34-93-5811263
Email: gregori.lopez@blues.uab.es

Bach. Nora Lorenzo
Departamento de Paleontología de la Facultad de Ciencias
Universidad de la República
Iguá 4225, CP 11400
Montevideo
Uruguay
Telephone: 05982-5258618/23 ext. 70
Fax: 5982-5258617

Dr. Lu Hongbo
Department of Petroleum Resources
Petroleum University
Dongying, Shandong Province 257062
P.R. China
Email c/o Prof. Jiang: upcc@public.bta.bet.cn

Dr. Spencer G. Lucas
New Mexico Museum of Natural History
1801 Mountain Road NW
Albuquerque, NM 87104
USA
Telephone: 505-841-2873
Fax: 505-841-2866
Email: SLucas@nmmnh.state.nm.us

Dr. James A. MacEachern
Department of Earth Sciences
Simon Fraser University
Burnaby, British Colombia V5A 1S6
Canada
Telephone: 604-291-5388
Fax: 604-291-4198
Email: jmaceach@sfu.ca

Dr. Robert B. MacNaughton
Geological Survey of Canada
3303 - 33rd Street NW
Calgary, Alberta T2L 2A7
Canada
Telephone: 403-292-7157
Fax: 403-292-4961
Email: romacnau@NRCan.gc.ca
Website: www.nrcan.gc.ca/gsc/calgary/staff/macnaut_e.html AND www.nrcan.gc.ca/gsc/calgary/staff/macnaut_f.html

Dr. Jacqui Malpas
Department of Earth Sciences
Manchester University
M13 9PL Manchester, England
United Kingdom

Dr. M. Gabriela Mángano
Department of Geological Sciences
University of Saskatchewan
114 Science Place
Saskatoon, Saskatchewan S7N 5E2
Canada
Email: gabriela.mangano@usask.ca

Dr. Anthony J. Martin
Dept. of Environmental Studies
Emory University
Atlanta, GA 30322
USA
Telephone: 404-727-6476
Email: geoam@learnlink.emory.edu
Website: www.emory.edu/GEOSCIENCE/HTML/TFW3.HTML AND www.emory.edu/GEOSCIENCE/HTML/Dinotraces.htm AND www.emory.edu/GEOSCIENCE/HTML/IN99-IN21Contents.html

Ms. Kate Martin
Department of Earth Sciences
University of Leeds
Leeds LS2 9JT
United Kingdom
Email: kdm@earth.leeds.ac.uk OR K.Martin@arth.leeds.ac.uk

Dr. Jordi Martinell Callicó
Departament d'Estratigrafia i Paleontologia
Universitat de Barcelona
Martí Franqués s/n
08028 Barcelona, Catalunya
Spain
Email: jordim@natura.geo.ub.es

Dr. Ronald L. Martino
Department of Geology
Marshall University
Huntington, WV 25755
USA
Email: martinor@marshall.edu

Dr. Eduardo Mayoral Alfaro
Departamento de Geología
Facultad de Ciencias Experimentales
Campus de La Rábida
Universidad de Huelva
E-21819 Palos de la Frontera, Huelva
Spain
Email: Mayoral@uhu.es

Dr. Ronald R. McDowell
West Virginia Geological & Economic Survey
P.O. Box 879
Morgantown, WV 26507-0879
USA
Telephone: 304-594-2575
Fax: 304-594-2575
Email: McDowell@geosrv.wvgs.wvnet.edu

Dr. Duncan McIlroy
Department of Earth Sciences
Memorial University of Newfoundland
St. John's, Newfoundland and Labrador A1B 3X5
Canada
Telephone: 709-737-6722
Email: dmc@esd.mun.ca

Carl Mehling
Fossil Amphibian, Reptile, and Bird Collections
Division of Paleontology
American Museum of Natural History
Central Park West at 79th Street
New York, NY 10024
USA
Telephone: 212-769-5849
Fax: 212-769-5842
Email: cosm@amnh.org

Dr. Ricardo Néstor Melchor
Universidad Nacional de La Pampa
Facultad de Ciencias Exactas y Naturales
Av. Uruguay 151
6300 Santa Rosa, La Pampa
Argentina
Email: melchor_r@cpsarg.com

Dr. Robert Metz
Department of Geology and Meteorology
Kean University
Union, New Jersey 07083
USA
Email: rmetz@kean.edu

Debra Mickelson
University of Colorado at Boulder
Dept. of Geological Sciences
Campus Box 399
Boulder, CO 80309-0399
USA
Telephone: 303-722-9995
Fax: 303-337-9458
Cell phone: 303-886-4012
Email: mickelsd@ucsu.colorado.edu

Dr. Radek Mikuláš
Geologický ústav ACR
Rozvojová 135
165 00 Praha 6
Czech Republic
Email: mikulas@gli.cas.cz
Website: www.gli.cas.cz/home/mikulas/Page3.htm

Jesper Milàn
Geological Institute
University of Copenhagen
Østervoldgade 10
DK-1350 Copenhagen K
Denmark
Email: nj240474@geo.geol.ku.dk OR jesper_Milan@yahoo.com

Dr. William C. Miller III
Geology Department
Humboldt State University
1 Harpst Street
Arcata, CA 95521
USA
Email: wm1@axe.humboldt.edu

Majid Mirzaie Ataabadi
University of Helsinki
Finland
Email: majid_mirat@yahoo.com

Dott. Paolo Monaco
Dipartimento di Scienze della Terra
Università degli Studi
piazza dell'Università
06100 Perugia,
p.IVA: 00448820548
Italy
Telephone: 39-075-5852659
Fax: 39-075-5853203
Email: pmonaco@unipg.it
Website: www.unipg.it/~pmonaco/index.html AND www.unipg.it/~pmonaco/Crustaceans/framePage.html AND www.unipg.it/~pmonaco/Bryce.docs/BryceHomePage.html AND www.unipg.it/~denz/monaco/index.html

M.Sc. Daniela T. de Moraes
Laboratory of Malacology
Department of Zoology
University of São Paulo
Cx. Postal 11.461
05422-970 – São Paulo, SP
Brazil
Email: dtmoraes@ib.usp.br

Karen Moreno
Earth Sciences Department
University of Bristol
Bristol, BS8 1RJ
United Kingdom
Email: K.Moreno@bristol.ac.uk

Dr. Masakazu Nara
Center for Marine Environmental Studies
Ehime University
790-8577
Japan
Email: nara@sci.ehime-u.ac.jp

Dr. Guy M. Narbonne
Department of Geological Sciences
Queen's University
Kingston, Ontario K7L 3N6
Canada
Telephone: 613-545-6168
Fax: 613-545-6592
Email: narbonne@geol.queensu.ca

Dr. Elizabeth Nesbitt
Burke Museum of Natural History and Culture
Box 353010
University of Washington
Seattle, WA 98195-3010
USA
Email: lnesbitt@u.washington.edu

Profª Drª Renata Guimarães Netto
Núcleo de Estudos Sedimentológicos e Estratigráficos – NESE PPGeo
Universidade do Vale do Rio dos Sinos – UNISINOS
Av. Unisinos, 950
93022-000 São Leopoldo RS
Brazil
Telephone: 55-51-590-3333 ramal 1745 ou 9808-2455
Fax: 55-51-590-8177
Email: nettorg@euler.unisinos.br

Jan Kresten Nielsen
Sjællandsgade 61 A, lejl. 502
DK-2200 Copenhagen N
Denmark
Email: bioerosion@yahoo.dk

Kurt S. S. Nielsen
Geological Institute
University of Copenhagen
Øster Voldgade 10
1350 Copenhagen K
Denmark
Email: nk061259@geo.geol.ku.dk

Dr. Alan R. Niem
Department of Geosciences
Oregon State University
104 Wilkinson Hall
Corvallis, OR 973331-5506
USA
Email: niema@terra.geo.orst.edu

Dr. Aydin Örstan
13348 Cloverdale Place
Germantown, MD 20874
USA

Dr. Eduardo B. Olivero
Centro Austral de Investigaciones Cientificas (CADIC) – Conicet
Ushuaia, Tierra del Fuego
Argentina
Email: eolivero@satlink.com
Website: www.tierradelfuego.org.ar/cadic/

Dr. Federico Olóriz
Departamento de Estratigrafía y Paleontología
Facultad de Ciencias
Universidad de Granada
Av. Fuentenueva s/n
18002 Granada
Spain
Telephone/fax: 34-958-243345
Fax: 34-958-248528
Email: foloriz@ugr.es

Prof. dr hab. Stanislaw Orlowski
Wydzial Geologii
Uniwersytet Warszwski
Al. Zwirki i Wigury 93
02-089 Warszawa
Poland

Dr. Patrick J. Orr
Department of Geology
National University of Ireland, Galway
Ireland
Telephone: 353-091-524411 ext. 2351
Fax: 353-091-750533
Email: 0005025s@bodkin.nuigalway.ie

Dr. Jolanta Paczesna
Pañstwowy Instytut Geologiczny
ul. Rakowiecka 4
00-975 Warszawa
Poland
Email: jpacz@pgi.waw.pl

Xavier Panades I Blas
Ludwig-Maximilians-Universität München
Dept. Geo- und Umweltwissenschaften
Richard-Wagner-Str. 10, München
Germany
Email: cogombra@hotmail.com

Dr. Pablo José Pazos
Departamento de Ciencias Geológicas
Fac. Cs. Exac. y Nat.
Universidad de Buenos Aires
Ciudad Universitaria, Pabellón II
Ciudad Autónoma de Buenos Aires (1428)
Argentina
Email: pazos@gl.fcen.uba.ar

Dr. S. George Pemberton
Department of Earth & Atmospheric Sciences
University of Alberta
Edmonton, Alberta T6G 2E3
Canada
Telephone: 780-492-2044
Fax: 780-492-8380
Email: george.pemberton@ualberta.ca

Friedrich Pflüger
Department of Geology & Geography
Vassar College, Box 235
124 Raymond Avenue
Poughkeepsie, NY 12604-0235
USA
Telephone: 845-437-7704
Fax: 845-437-7577
Email: frpflueger@vassar.edu

Prof. Ronald K. Pickerill
Department of Geology
University of New Brunswick
Fredericton, New Brunswick E3B 5A3
Canada
Telephone: 506-447-3186
Email: rpickeri@unb.ca

Dr. Thomas E. Pickett
11236 Black Walnut Pt.
Indianapolis, IN 46236
USA
Email: pickett@strauss.udel.edu

Dr. Jean-Claude Plaziat
Laboratoire de Pétrologie Sédimentaire
Département de Géologie
Université Paris-Sud; Orsay
Bât. 504
F-91405 Orsay Cedex
France

Prof. Roy E. Plotnick
Dept. of Earth and Environmental Sciences
University of Illinois at Chicago
845 W. Taylor St.
Chicago, IL 60607
USA
Telephone: 312-996-2111
Fax: 312-413-2279
Email: plotnick@uic.edu
Website: www.uic.edu/~plotnick.htm

Dr. Teresa Podhalanska
Instytut Nauk Geologicznych
Polska Akademia Nauk
Al. Zwirki i Wigury 93
PL-02-089 Warszawa
Poland
Email: tpodhala@twarda.pan.pl

Dr. Daniel G. Poiré
Centro de Investigaciones Geológicas CONICET
Universidad Nacional de la Plata
calle 1 nº 644, 1900 La Plata
Argentina
Telephone: 54-021-21-5677 ext. 36
Fax: 54-021-25-8696
Email: poire@cig.museo.unlp.edu.ar

Prof. John E. Pollard
Department of Earth Sciences
University of Manchester
Manchester M13 9PL
United Kingdom
Email: John.Pollard@man.ac.uk

Prof. Paul Edwin Potter
Geociências/UFRGS
Campus do Vale, Porto Alegre
91506-900 RS
Brazil
Telephone: 55-51-316-6394 OR 55-51-316-6340
Fax: 55-51-319-1811
Email: Pepotter@if.ufrgs.br

Dr. Brian R. Pratt
Department of Geological Sciences
University of Saskatchewan
114 Science Place
Saskatoon, Saskatchewan S7N 5E2
Canada
Telephone: 306-966-5725
Fax: 306-966-8593
Email: brian.pratt@usask.ca

Zbigniew Przewocki
University of Warsaw
Institute of Geology
Al. Zwirki i Wigury 93
02-089 Warsaw
Poland
Telephone: 48-22-822-30-51
Fax: 48-22-822-02-48
Email: przewloc@geo.uw.edu.pl OR bigzbig@hotmail.com

Mr. Nicholas D. Pyenson
Department of Integrative Biology and Museum of Paleontology
University of California
1101 Valley Life Sciences Building
Berkeley, CA 94720
USA
Telephone: 510-643-9746
Fax: 510-642-1822
Email: pyenson@socrates.berkeley.edu

Dr. Qi Yong'an
Department of Resource and Environmental Engineering
Jiaozuo Institute of Technology
Jiaozuo City 454000, Henan Province
P. R. China
Telephone: 81-391-3987965
Email: qiya@jzit.edu.cn

Dr. Jonathan D. Radley
Warwickshire Museum
Market Place
Warwick CV34 4SA
United Kingdom

Dr. Gudrun Radtke
Hessiches Landesamt für Umwelt und Geologie
Rheingaustraße 186
D-65193 Wiesbaden
Germany
Telephone: 49-611-537-231
Fax: 49-611-537-327
Email: gudrun.radtke@arcormail.de

Emma C. Rainforth
School of Theoretical and Applied Science
Ramapo College of New Jersey
505 Ramapo Valley Road
Mahwah, NJ 07430
USA
Telephone: 201-684-7209
Email: emmar@ldeo.columbia.edu

Dr. Kazimierz Rdzanek
ul. Muszlowa 3 m. 55
01-357 Warszawa
Poland
Telephone: 48-502-844-913
Email: mikulski@go2.pl

Dr. Gregory J. Retallack
Department of Geological Sciences
University of Oregon
Eugene, OR 97403-1272
USA
Email: gregr@darkwing.uoregon.edu

Dr. Andrew K. Rindsberg
Deprtment of Biological and Environmental Sciences
Station 7, University of West Alabama
Livingston, AL 34570
USA
Telephone: 205-652-3416
Fax: 205-652-3831
Email: arindsberg@uwa.edu

Luis Azevedo Rodrigues
Museu Nacional de Historia Natural (Mineralogia e Geologia)
Rua da Escola Politecnica, 58
P-1294 Lisboa codex
Portugal
Telephone: 351-21-392-18-35
Fax: 351-21-390-58-50
Email: lmrodrigues@fc.ul.pt
Website: www.mnhn.ul.pt/dinos/public_html/index.html

Dr. Francisco Javier Rodríguez-Tovar
Departimento de Estratigrafía y Paleontología
Universidad de Granada
Avd. Fuente Nueva s/n
18002 Granada
Spain
Telephone/Fax: 34-9-58-243345
Email: fjrtovar@goliat.ugr.es

Dr. Michael Romano
Department of Earth Sciences
University of Sheffield
Danton Building, Sheffield S3 7HF
United Kingdom
Email: M.Romano@sheffield.ac.uk

Elias Samankassou
Email: samelias@pal.uni-erlangen.de

Dr. Charles E. Savrda
Department of Geology
210 Petrie Hall
Auburn University
Auburn, AL 36849
USA
Email: savrdce@mail.auburn.edu

Dr. Michael Schlirf
Institut für Paläontologie der Universität
Pleicherwall 1
97070 Würzburg
Germany
Email: michael.schlirf@mail.uni-wuerzburg.de
Website: www.uni-wuerzburg.de/palaeontologie/staff/Micha/tracefossils.htm

Dr. Christine Schoenberg
University of Queensland
Centre for Marine Studies
Slip Road, Seddon Building (Bldg. 82)
St. Lucia, Brisbane QLD 4072
Australia
Telephone: 7-33469576
Fax: 7-33654755
Email: c.schoenberg@marine.uq.edu.au OR
christineaway@gmx.de
Website: www.marine.uq.edu.au

Will Schroeder
2118B Rugen Road
Glenview, IL 60025
USA

Dr. Günter Schweiger
Staatliches Museum für Naturkunde
Rosenstein 1
70191 Stuttgart
Germany
Email: schweigert.smns@naturkundemuseum-bw.de

Dr. Adolf Seilacher
Engelfriedshalde 25
D-72076 Tübingen
Germany
Telephone: 49-7071-6314
Email: geodolf@tuebingen.netsurf.de

Mr. Serkan Sevim
Ankara University
Department of Geological Engineering
06100 Tandogan, Ankara
Turkey
Email: demircan@science.ankara.edu.tr

Dr. Erling I. Heintz Siggerud
Z & S Geologi A/S
Sverdrupsgate 23
N-4007 Stavanger
Norway
Email: erling@zsgeo.no
Website: www.zands.com

Carlos Marques da Silva
Departamento de Geologia
Universidade de Lisboa
Rua da Escola Politécnica, 58
1250-102 Lisboa
Portugal
Email: Paleo.Carlos@fc.ul.pt
Website: correio.cc.fc.ul.pt/~cmsilva/

Dr. Abigail M. Smith
Department of Marine Science
P.O. Box 56
University of Otago
New Zealand
Telephone: 64-3-479-7463
Email: abbysmith@rivendell.otago.ac.nz
Website: gandalf.otago.ac.nz:800/Marine/Asmith.htm

Mr. Ray Stanford
Mesozoic Track Project
P.O. Box 845
College Park, MD 20741-0845
USA
Telephone: 301-474-5617
Email: dinotracker@earthlink.net

Dr. Dwayne D. Stone
Department of Geology
Marietta College
Marietta, OH 45750-4018
USA

Dr. Carol M. Tang
Department of Geology
Arizona State University
Box 871404
Tempe, AZ 85287-1404
USA
Telephone: 602-965-9878
Fax: 602-965-8102
Email: cmtang@asu.edu

Mr. Leif Tapanila
Department of Geology & Geophysics
University of Utah
719 WBB, 135 South 1460 East
Salt Lake City, UT 84112-0111
USA
Email: ltapanila@mines.utah.edu

Dr. Andrew M. Taylor
Ichron Limited
16 Dalby Court
Gadbrook Business Centre
Northwich, Cheshire CW9 7TN
United Kingdom
Telephone: 01606-46113
Fax: 01606-46114
Email: taylor@ichron.com

Prof. Platon Tchoumatchenko
Bulgarian Academy of Sciences
Acad. G. Bontchev Str. B. 24
1113 Sofia
Bulgaria
Email: vpt@vmei.acad.bg

Dr. Linda L. Thomas
Pratt Museum of Natural History
Amherst College
Amherst, MA 01002
USA
Telephone: 413-542-2326
Fax: 413-542-2713
Email: llthomas@amherst.edu
Website: www.amherst.edu/~pratt

Dr. Nigel H. Trewin
Department of Geology and Petroleum Geology
University of Aberdeen
Meston Building, King's College
Aberdeen AB9 2UE
United Kingdom
Email: n.trewin@geol.abdn.ac.uk

Lauren Tucker
School of Earth Sciences
University of Birmingham
Edgbaston, Birmingham B15 2TT
United Kingdom
Telephone: 0121-414-3486
Email: LXT758@bham.ac.uk

Dr. Giorgio Tunis
Department of Geological, Marine and Environmental Sciences
University of Trieste
via Weiss 2
34127 Trieste
Italy
Email: tunis@univ.trieste.it

Dr. Richard J. Twitchett
Department of Earth Sciences
University of Bristol
Wills Memorial Building, Queen's Road
Bristol BS8 1RJ
United Kingdom
Email: r_twitch@hotmail.com

Prof. Alfred Uchman
Institute of Geological Sciences
Jagiellonian University
Oleandry 2a
30-063 Kraków
Poland
Email: fred@ing.uj.edu.pl

Lothar H. Vallon
Institut für Geologie und Paläontologie
Universität Stuttgart
Herdweg 51
D-70174 Stuttgart
Germany
Email: lvallon@geologie.uni-stuttgart.de

Sr. Mariano Verde
Departamento de Paleontología de la Facultad de Ciencias
Universidad de la República
Iguá 4225, CP 11400, Montevideo
Uruguay
Telephone: 05982-5258618/23 ext. 70
Fax: 5982-525-8617
Email: verde@fcien.edu.uy

Dr. Victor K. Vere
Department of Physical Sciences – Geology
Arkansas Tech University
Russellville, AR 72801
USA
Email: pldh@atuvm.atu.edu

Dr. Sally E. Walker
Department of Geology
University of Georgia
Athens, GA 30602
USA
Telephone: 706-542-2396
Email: swalker@uga.cc.uga.edu
Website: www/gly.uga.edu/walker.html

Dr. Harald Walter
Sächsisches Landesamt für Umwelt und Geologie
Bereich Boden und Geologie Freiberg
Halsbrücker Strasse 31 a
D-09599 Freiberg
Germany
Email: Harald.Walter@lfugfg.smul.sachsen.de

Dr. Anne Warren
Department of Zoology
La Trobe University
Bundoora, Victoria 3083
Australia
Telephone: 61-03-94792241
Fax: 61-03-94791551
Email: a.warren@zoo.latrobe.edu.au

Dr. Marilyn D. Wegweiser
Email: thedoc@buckingdino.com
Website: biology.gcsu.edu/facultyres/Marilyn_Wegweiser/facultywegweiser.htm

Dr. O.P. (Onno) Werver
De Mulder 52
5272 RG Sint Michielsgestel
Netherlands

Prof. Ronald R. West
Department of Geology
108 Thompson Hall
Kansas State University
Manhattan, KS 66506-3201
USA
Email: rrwest@ksuvm.ksu.edu

Prof. Dr. Andreas Wetzel
Geologisch-Paläontologisches Institut der Universität Basel
Bernoullistraße 32
CH-4056 Basel
Switzerland
Telephone: 41-61-267-3585
Email: andreas.wetzel@unibas.ch

Prof. Mark A. Wilson
Department of Geology
College of Wooster
Wooster, OH 44691
USA
Telephone: 330-263-2247
Fax: 330-263-2249
Email: mwilson@wooster.edu
Website: www.wooster.edu/geology/MWilson.html

Oliver Wings
Institut für Paläontologie
Universität Bonn
Nussallee 8
D-53115 Bonn
Germany
Telephone: 49-0-228-734683
Fax: 49-0-228-733509
Email: oliver.wings@web.de
Website: go.to/gastrolith

Ann Yost
5120 N. Lovejoy Avenue
Chicago, IL 60630
USA

Stefanie Zaklan
Biological Sciences
University of Alberta
Edmonton, Alberta T6G 2E9
Canada
Email: zaklan@bms.bc.ca OR zaklan@ualberta.ca

Prof. Dr. Jan Zapletal
Deparment of Geology
Palacký University
Svobody Ave. 26, 771 46 Olomouc
Czech Republic
Email: zapletal@prfnw.upol.cz

Dr. Guocheng Zhang
Department of Natural Resources and Environmental Engineering
Jiaozuo Institute of Technology
142, Jiefang Road, Jiaozuo City
454100, Henan Province
P. R. China
Telephone: 86-391-3980366
Fax: 86-391-2923353
Email: zhanggc@jzit.edu.cn

Prof. Zhou Zhicheng
Nanjing Institute of Geology and Palaeontology
Academia Sinica
Chi-Ming-Ssu, Nanjing 210008
P.R. China

John-Paul Zonneveld
Geological Survey of Canada (Calgary)
3303 - 33rd Street NW
Calgary, Alberta T2L 2A7
Canada
Telephone: 403-292-7018
Fax: 403-229-4961
Email: jzonneve@nrcan.gc.ca

Anna Zylinska
Institute of Geology
University of Warsaw
Al. Zwirki i Wigury 93
02-089 Warszawa
Poland
Email: zylinska@geo.uw.edu.pl

Institutional Subscribers

Paleontological Institute
University of Kansas
Lindley Hall
1475 Jayhawk Boulevard, Room 121
Lawrence, KS 66045-7613
USA

Netherlands Institute for Sea Research
Library
P.O. Box 59
1790 AB den Burg, Texel
The Netherlands

Stanford University
Earth Sciences Library
Stanford, CA 94305
USA

Bibliographia Ichnologica 2005-2006 with complementary data since 1990

Alfred Uchman[1] & Andrew K. Rindsberg[2]

1. Institute of Geological Sciences, Jagiellonian University
Oleandry 2a, 30-063 Kraków, Poland
fred@ing.uj.edu.pl
2. Department of Biological & Environmental Sciences
Station 7, University of West Alabama
Livingston, AL 35470 USA
arindsberg@uwa.edu

Abad M., Ruiz F., Pendón J.G., Tosquella J. & González-Regalado L. 2006. Escape and equilibrium trace fossils in association with *Conichnus conicus* as indicators of variable sedimentation rates in Tortonian littoral environments of SW Spain. Geobios, 39: 1-11. # *Cerianthus, Ophiomorpha nodosa, Skolithos, Thalassinoides,* Miocene, Guadalquivir Basin

Abbassi, N. & Lockley, M. 2004. Eocene bird and mammal tracks from the Karaj Formation, Tarom Mountains, northwestern Iran. Ichnos, 11(3-4): 349-356. # *Iranopedia abeli, Caharadripeda, Urmiornis abeli*, mammals

Abbassi, N. & Shakeri, S. 2005. Miocene vertebrate footprints from the Upper Red Formation, Mushampa area, Zanjan Provonce. Geosciences, 12(55): 13 pp. Tehran. [In Persian, English abstract]. # *Avipda, Bestiopseda, Credeontipes, Culcidapeda tridens,* vertebrates, Iran

Abbassi, N. 2005. Miocene bird track and take off imprints in the Upper Red Formation, western Mushampa, northwest Zanjan, Iran. Journal of Sciences, University of Tehran, 31(1): 1-20. [In Persian]. # *Antarctichnus*, vertebrate, volichnia, drag marks

Aceñolaza, F.G. 2005. Las "Areniscas Calcáreas con Fucoides" del Famatina, Provincia de La Rioja, Argentina. In: Aceñolaza, F.G. (ed.), Simposio Bodenbender. Instituto Superior de Correlación Geológica. Serie Correlación Geológica, 19: 177-186. IBSN 1514-4186 – ISSN online 1666-9479.

Aceñolaza, F. & Aceñolaza, G.F., 2005. La Formación Puncoviscana y unidades estratigráficas vinculadas en el Neoproterozoico – Cámbrico Temprano del Noroeste Argentino. Latin American Journal of Sedimentology and Basin Analysis, 12(2): 67-91.

Aceñolaza, F.G. & Alonso, R.N. 2001. Icno-asociaciones de la transición Precámbrico-Cámbrico en el noroeste de Argentina. Journal of Iberian Geology, 27: 11-22. # *Cochlichnus anguineus, Corophioides, Dimorphichnus, Didymaulichnus, Diplichnites, Glockeria, Helminthoida, Helminthoidichnites, Helminthorhaphe, Monomorphichnus, Multipodichnus, Neonereites uniserialis, Nereites saltensis, Oldhamia flabellata, Oldhamia radiata, Paliella, Planolites, Protichnites, Protopaleodictyon, Protovirgularia, Scolicia, Taphrhelminthopsis, Tasmanadia, Tiernavia, Torrowangea, Treptichnus,* deep-sea, Precambrian, Cambrian, Argentina

Aceñolaza, F.G. & Cingolani, C.A. 1993. Trazas fósiles de la facies de *Nereites* en el "Grupo Villavicencio" de la Sierra de la Cortadera, Precordillera de Mendoza. Primera Reunion Argentina de Icnologia, Santa Rosa, La Pampa, Argentina, 29 de Junio al. 6 de Julio de 1993, Resumen y Conferencias Invitadas, p. 3.

Aceñolaza, G.F. 2003. *Arachnostega gastrochaenae* Bertling (traza fósil) en las secuencias volcanoclásticas de la Formacón Suri, Sistema de Famatina, Argentina. Ameghiniana, 40(3): 315-322. # Ordovician

Aceñolaza, G.F. 2003. Olenidae (Trilobita) – *Rusophycus* isp.: organismo productor-traza fósil resultante. Ejemplos para el análisis en el Cambro/Ordovícico de la Cordillera Oriental Argentina. Ameghinana, 40(4): 573-583. Buenos Aires.

Aceñolaza, G.F. 2003. Associación trilobites – *Rusophycus* en el Tremadociano Superior del noroeste argentino. Boletín Gelógico y Minero, 114(4): 473-479. # *Arenicolites, Bergaueria, Cruziana furcifera, Cruziana semplicata, Didymaulichnus, Dimorphichnus, Monocraterion,*

Palaeophycus tubularis, Phycodes, Planolites, Rusophycus latus, Rusophycus polonica, Skolithos linearis, Teichichnus rectus, Trichophycus venosus, producer, Ordovician, Argentina

Aceñolaza, G.F. 2004. Precambrian-Cambrian ichnofossils, an enigmatic “annelid tube” and microbial activity in the Puncoviscana Formation (La Higuera; Tucumán Province, NW Argentina). Geobios, 37: 127-133. # *Asaphoidichnus, Cochlichnus, Didymaulichnus, Dimorphichnus, Diplichnites, Glockerichnus, Helminthoidichnites, Helminthopsis, Monomorphichnus, Nereites, Oldhamia, Planolites, Protichnites, Protopaleodictyon, Protovirgularia, Treptichnus aequalternus*

Aceñolaza, G.F. 2005. *Spirodesmos milanai* n. isp.: a shallow-water spiral trace fossil from the Cambrian of the Eastern Cordillera, northwest Argentina. Ichnos, 12: 59-63. # *Cruziana* cf. *semiplicata, Diplocraterion, Monocraterion, Rusophycus, Skolithos linearis, Skolithos magnus, Spirodesmos milanai* isp. n.

Aceñolaza, G. 2005. Reply. Geologica Acta, 3(1): 73-77. # Buatois, L.A. & Mángano, M.G. 2005. Discussion and reply: The Cambrian System in Northwestern Argentina: stratigraphical and palaeontological framework. Discussion. Geologica Acta, 3(1): 65-72, *Phycodes pedum, Rusophycus leiferikssoni, Treptichnus pedum, Trichophycus,* Precambrian, Cambrian, Ordovician, Argentina

Aceñolaza G.F. 2005. *Spirodesmos milanai* n isp. A shallow-water spiral trace fossil from the Cambrian of the Eastern Cordillera, northwest Argentina. Ichnos, 12: 59-63.

Aceñolaza, G.F. & Aceñolaza, F.G., 2006. *Nereites saltensis* (trace fossil): a taxonomical re-evaliuation of type and additional material from the Puncoviscana Formation of Northwest Argentina (Ediacaran - Early Cambrian). Short papers V South American Sympoisum on Isotope Geology: 218-220. ISBN: 9974-0-0327-X

Aceñolaza, G., Fedonkin, M., Aceñolaza, F. & Vickers-Rich, P., 2005. The Ediacaran / Lower Cambrian transition in northwest Argentina: New paleontological evidence along the proto margin of Gondwana. 2nd Symposium on Neoproterozoic-Early Paleozoic Events in southwestern Gondwana: 2-4.

Aceñolaza, G.F., Gutiérrez-Marco, JC. & Peralta, S. 2003. *Arachnostega gastrochaenae* Bertling (traza fósil), en las secuencias volcaniclásticas de la Formación Suri, Sistema de Famatina, Argentina. Ameghiniana, 40(3): 315-322. Buenos Aires.

Aceñolaza, G.F. & Milana, J.P., 2005. Remarkable *Cruziana* beds in the Lower Ordovician of the Cordillera Oriental, NW Argentina. Ameghiniana, 42(3): 633-637. Buenos Aires.

Aceñolaza, G.F. & Nieva, S.M., 2003. Caracteres estratigráficos e icnológicos de la Formación Candelaria (Cambro-Ordovícico) aflorante en el NE de la provincia de Tucumán. Revista de la Asociación Geológica Argentina, 58 (3): 434-446. Buenos Aires.

Aceñolaza, G.F. & Tortello, M.F. 2003. El Alsial: a new locality with trace fossils of the Puncoviscana Formation (Late Precambrian-Early Cambrian) in Salta Province. Geologica Acta 1(1): 95-102. Barcelona.

Adami-Rodrigues, K., Iannuzzi, R. & Pinto, I.D. 2004. Permian plant-insect interactions on Gondwana flora from southern Brazil. Fossils and Strata, 51: 106-125. # insects, plant-arthropod interactions, leaf mines, galls, oviposition scars, Permian

Agirrezabala, L.M. & De Gibert, J.M. 2004. Paleodepth and paleoenvironment of *Dactyloidites ottoi* (Geinitz, 1849) from Lower Cretaceous deltaic deposits (Basque-Cantabrian Basin, West Pyrenees). Palaios, 19: 276-291. # *Conichnus, Dactyloidites penicillus, Didymaulichnus, Ophiomorpha, Palaeophycus, Planolites, Skolithos, Thalassinoides,* deltaic, fluvial-dominated deltas, Aptian-Albian Otoio Formation, Spain

Agostinho, S., Viana, M.S.S. & Fernandes, A.C.S. 2004. Duas novas icnoespécies de *Bifungites* Desio, 1940 na Formação Pimenteira, Devoniano da Bacia do Parnaíba, Brasil. Arquivos do Museu Nacional, Rio de Janeiro, 62(4): 519-530. # *Arenicolites, Asteriacites, Asterosoma, Bifungites munizi* isp. nov.*, Bifungites piauiensis* isp. nov., *Chondrites, Cruziana,*

Cylindrichnus, Diplichnites, Diplocraterion, Helminthopsis, Lophoctenium, Isopodichnus, Lockeia, Macaronichnus, Merostomichnites, Neoskolithos, Nereites, Palaeohelminthoida, Palaeophycus, Phycosiphon, Planolites, Rhizocorallium, Rosselia, Rusophycus, Scolicia, Skolithos, Spirophyton, Subphyllochorda, Teichichnus, Zoophycos, Devonian, Brazil

Aguirre-Urreta, B., Pazos, P.J. & Varela, R. 2004. *Asteriacites lumbricalis* von Schlotheim 1820: ophiuroid trace fossil from the Mulichinco Formation, Valanginian of the Neuquen Basin of western Argentina. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 13. # Cretaceous

Aguirre-Urreta, M.B. 1993. Trazas fósiles de poliquetos, pellets fecales y crustáceos decápodos: retroalimentación tafonómica en las asociaciones de decápodos y poliquetos, Terciario marino de Patagonia. Primera Reunion Argentina de Icnologia, Santa Rosa, La Pampa, Argentina, 29 de Junio al. 6 de Julio de 1993, Resumen y Conferencias Invitadas, p. 4. # crustaceans, polychaetes

Ahlberg, P. 1998. Stop 1. Vik. In: Ahlberg, P. (ed.), Guide to Excursions in Scania and Västergötland, southern Sweden. Lund Publications in Geology, 141: 23. # *Diplocraterion, Monocraterion, Skolithos*, Cambrian, Sweden

Ainsworth, R.B. & Crowley, S.F. 1994. Wave-dominated nearshore sedimentation and “forced” regression: post-abandoment facies, Great Limestone Cyclothem, Stainmore, UK. Journal of the Geological Society, London, 151: 618-695. # *Eione moniliformis, Planolites, Rosselia, Scolicia,* Carboniferous, England, Great Britain

Amerom, H.W.J., van, Broutin, J., Ferrer, J., Gámez-Vintaned, J.A., Liñán, E. & Gisbert, J. 1993. Les flores du Permien basal et la paléoichnologie de la fosse de Fombuena (province de Zaragoza, Espagne). Mededelingen Rijks Geologische Dienst. 48: 1-63. # *Cochlichnus, Monomorphichnus lineatus, Palaeophycus, Phycodes, Taenidium serpentinum, Torrowangea rosei, Torrowangea annulata* isp. n*., Treptichnus,* fecal pellets, non-marine, Permian, Spain

Alonso, R.N. & Mossman. D.J. 1993. Icnología y Metalogenia. Primera Reunion Argentina de Icnologia, Santa Rosa, La Pampa, Argentina, 29 de Junio al. 6 de Julio de 1993, Resumen y Conferencias Invitadas, p. 6.

Andrade Morraye, M., de, 2004. Finding out the trace maker: fossil tubes of Chironomidae (Diptera) in shales of Tremembé Formation, Taubaté Basin (Oligocene), Brazil. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 29. # Chironominae, Tanypodinae, *Tanypus stellatus, Tanytarsus*

Anton, M., López, G. & Santamaria, R. 2004. Carnivore trackways from the Miocene site of Salinas de Añana (Alava, Spain). Ichnos, 11(3-4): 371–384. # *Canipeda longigriffa, Felipeda lynxi*, *Felipeda parvula* isp. n., mammals

Antunes, MT. Balbino, A.C. & Ginsburg, L. 2006. Miocene mammalian footprints in coprolites from Lisbon, Portugal. Annales de Paleontologie, 92: 13-30.

Aramayo, S.A. & Manera de Bianco, T. 1993. Nuevos hallazgos en el yacimiento paleoicnológico de Pehuén-Có, (Pleistoceno Tardío) Prov. de Buenos Aires, Primera Reunion Argentina de Icnologia, Santa Rosa, La Pampa, Argentina, 29 de Junio al. 6 de Julio de 1993, Resumen y Conferencias Invitadas, p. 7. # Pleistocene, Quaternary

Aramayo, S. 2004. Later Quaternary palaeoichnological sites at southern Atlantic coast of Buenos Aires Province, Argentina. In: Kim, J.Y., Kim, K.-S., Park, S.I. & Shin, M.-K. (Eds.), Proceedings of International Symposium on the Quaternary Footprints of Hominids and Other Vertebrates. Namjejigun, p. 94-105. # *Eumacrachenichnus patachonicus, Hippeda, Llamaichium guanicoe, Megalamichnium tulipensis, Mulodontichnium rosalensis, Neomegatherichnium pehuencoensis, Odocoileinichnium commune, Pehuncoichnium gracilis, Pumaeichnium biancoi, Stegomastodontichnium australis,* Holocene

Aramayo, S. A. & Manera de Bianco, T. 1996. Edad y nuevos hallazgos de icnitas de mamíferos y aves en el yacimiento paleoicnológico de Pehuén-Có (Pleistoceno Tardío), provincia de Buenos Aires, Argentina. Asociación Paleontológica Argentina, Publicación Especial, 4: 47-57. # *Acugnaichnus dorregoensis, Iribarichnum megamericanum, Megalamichnum tulipensis, Megatherichnum oportoi, Mylodontichnum rosalensis, Neomegatherichnum pehuencoensis, Venatoripes rijoanus, Mylodon harlani, Glyptodon*, mammals, footprints, tracks, Miocene, Pliocene, Pleistocene, Argentina

Aramayo, S.A. & Bocanegra, L.M. 2003. Icnofacies de *Scoyenia* en la Formación Candeleros (Subgrupo Río Limay, Grupo Neuquén, Cretácico tardío) provincia de Neuquén, Argentina. Asociación Paleontológica Argentina, Publicación Especial, 9: 43-48. # *Helminthopsa hieroglyphica, Scoyenia gracilis, Skolithos linearis, Taenidium,* fluvial, Cretaceous, Argentina

Aramayo, S.A., Barros, M., Candel, S. & Vecchi, L. 2004. Mammals and birds footprints at Rio Negro Formation (Late Miocene-Early Pliocene), Rio Negro Province, Argentina. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 14. # *Megatherichnum oportoi,* cf. *Mylodontichnum*

Aramayo, S.A., Maneta de Blanco, T. & Bocanegra, L.M. 2003. Presencia de *Taenidium* Heer, 1877 en el yacimiento paleoicnológico de Pehuen-Có (Pleistoceno Tardío), provincia de Buenos Aires, Argentina. Asociación Paleontológica Argentina, Publicación Especial, 9: 49-52. # *Macrauchenichnium, Megalamichnium, Taenidium barretti,* mammals, birds, fluvial, Pleistocene

Aramayo, S.A., Schillizzi, R.A. & Gutiérrez Téllez, B. 2004. *Coprinisphaera* isp. at the Irene Formation (Early to Middle Pliocene), Quequén Salado river, Buenos Aires Province Argentina. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 13. # *Coprinisphaera*

Archer, A., J.H. Clader, M.R. Gibling, R.D. Naylor, D.R. Reid, and W.G. Wightman. 1995. Invertebrate trace fossils and agglutinated foraminifera as indicators of marine influence within the classic Carboniferous section at Joggins, Nova Scotia, Canada. Canadian Journal of Earth Sciences, 32: 2027-2039. # *Cochlichnus anguineus, Diplichnites aenigma, Gordia, Haplotichnus, Kouphichnium, Plangtichnus erraticus, Protichnites, Skolithos, Taenidium barretti, Treptichnus,* tetrapods

Árpád, D. & Fodor, R. 2004. Paleoichnological analysis on the test of Middle-Eocene (Lutetian) age corals-comparison. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 15. # *Entobia* isp., *Caulostrepsis taeniola, Caulostrepsis cretacea, Caulostrepsis* isp., *Gastrochaenolites cluniformis, Gastrochaenolites dijugus, Gastrochaenolites lapidicus, Gastrochaenolites turbinatus, Gastrochaenolites* isp., *Maendropolydora elegans, Maendropolydora sulcans, Maendropolydora* isp., *Terebripora, Trypanites solitarius, Trypanites weisei, Trypanites* isp., Hungary

Árpád, D. 2004. Bioerosion and palaeopathological phenomena on the tests of Egerian age molluscs. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 14. # *Caulostrepsis cretacea, Caulostrepsis taeniola, Entobia cateniformis, Entobia geometrica, Entobia laquea, Entobia megastoma, Entobia ovula, Entobia paradoxa, Entobia retiformis, Gnathichnus pentax, Maeandropolydora barocca, Maeandropolydora elegans, Maeandropolydora sulcans, Oichnus paraboloides, Oichnus simplex, Rogerella pattei, Terebripora* isp., *Trypanites solitarius, Spathipora* isp., *Hinia-Cadulus, Tympanotonus-Pirenella, Polinices josephina olla,* Miocene, Hungary

Árpád, D. 2004. Bioerosion of two fossil rocky shores - a comparison (Bükk Mountains, Hungary). In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 15. # *Circolites* isp., *Entobia cateniformis, Entobia geometrica, Entobia megastoma, Entobia retiformis, Entobia volzi, Entobia* isp., *Caulostrepsis contorta, Caulostrepsis taeniola, Caulostrepsis* isp., *Gastrochaenolites cluniformis, Gastrochaenolites lapidicus, Gastrochaenolites orbicularis, Gastrochaenolites torpedo, Maeandropolydora decipiens, Maeandropolydora elegans, Maeandropolydora sulcans, Rogerella pattei, Trypanites solitarius, Trypanites weisei,* late Oligocene, early Miocene

Asgaard, U., & Bromley, R.G. 2004. Co-occurrence of schizasterid echinoids and the trace fossil *Scolicia*, Pleistocene, Greece. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 16. # Brissidae, Echinocardiidae, Micrasteridae, *Schizaster (Ova) canelliferus, Scolicia prisca*

Asgaard, U., Bromley, R. & Uchman, A. 2006. Guddommelige spiraler – historien bag et mønster, 2. Varv, 3 (for 2005): 18-21. Copenhagen. [In Danish]. # *Spirorhaphe,* Greece, Venezuela

Ataabadi, M.M. & Khazaee, A.R. 2004. New Eocene mammal and bird footprints from Birjand Area, eastern Iran. Ichnos, 11(3-4): 363-370. # *Gruipeda lambrechti* isp. n., *Palaeotheriipus sarjeant*i isp. n., *Palaeotheriipus similimedius*

Atkinson, T.P., Buta, R.J., Rindsberg, A.K. & Kopaska-Merkel, D.C., 2006, Saving the Union Chapel Mine: How a group of amateurs teamed up with professionals to save a world-class Carboniferous track site. Geological Society of America Abstracts with Programs.

Avanzini, M., D'Orazi Porchetti, S., Nicosia, U., Panigutti, S., Petti, F.M., Sacchi, E. & Valentini, M. 2004. Like Carroll's Cheshire-cat: vanishing dinosaur ichnosystematics. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 16. # general, ichnotaxonomy

Bábek, O., Mikuláš, R., Zapletal, J. & Lehotský, T. 2004. Combined tectonic-sediment supply-driven cycles in a Lower Carboniferous deep-marine foreland basin, Moravice Formation, Czech Republic. International Journal of Earth Sciences, 93: 241-261.

Bádenas, B., Aurell, M. & Gröcke, D.R. 2005. Facies analysis and correlation of high-order sequences in midle-outer ramp successions: variations in exported carbonate on basin-wide δC_{carb} (Kimmeridgian, NE Spain). Sedimentology, 52(6): 1253-1275. # *Chondrites, Planolites, Rhizocorallium,* Jurassic

Baldwin, C.T. & Strother, P.K. 2004. The internal structure and kinematics of production of the Paleozoic trace fossil *Arthorophycus alleghaniensis* and a possible non-trilobite tracemaker. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 17.

Baldwin, C.T., Strother, P.K., Beck, J.H. & Rose, E. 2004. Palaeoecology of the Bright Angel Shale in the eastern Grand Canyon, Arizona, USA, incorporating sedimentological, ichnological and palynological data. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 213-237. # *Arenicolites, Cruziana, Dimorphichnus, Diplocraterion, Monocraterion, Monomorphichnus, Palaeophycus, Phycodes, Planolites, Rusophycus, Skolithos, Teichichnus,* Cambrian, USA

Balistieri, P., Netto, R. & Lavina, E. 2002. Ichnofauna from the Upper Carboniferous-Lower Permian rhythmites from Mafra, Santa Catarina State, Brazil. Revista Brasileira de Paleontologia, 4: 13-26. # *Cochlichnus anguineus, Cruziana problematica, Diplichnites gouldi, Diplopodichnus biformis, Gordia arcuata, Gordia marina, Hormosiroidea meandrica* isp. n., *Incifex, Ichnyspica, Lockeia siliquaria, Maculichna, Merostomichnites, Mesichnium,*

Mirandaichnium, Myriapodites, Oniscoidichnus, Permichnium, Petalichnus, Protichnites, Protovirgularia pennatus, Pterichnus, Rusophycus carbonarius, Siskemia, Tasmanadia, Treptichnus pollardi, salinity, brackish, oxygenation, glaciations

Balistieri, P., Netto, R.G. & Lavina, E. 2004. Glacio-eustatic controls and benthic colonization of marginal-marine deposits (Upper Carboniferous-Lower Permian, Paraná Basin, Brazil). In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 17. # *Arenicolites* isp., *Chondrites* isp., *Cochlichnus anguineus, Cruziana, Cruziana problematica, Diplichnites gouldi, Diplocraterion* isp., *Diplopodichnus biformis, Glossifungites, Gordia arcuata, Gordia marina, Hormosiroidea meandrica, Palaeophycus tabularis, Palaeophycus striatus, Palaeophycus* isp., *Planolites* isp., *?Rhizocorallium* isp., *Rusophycus* cf., *Rusophycus carbonarius, Thalassinoides* isp.,*Treptichnus pollardi, Undichna ?consulca*

Balistieri, P., Netto, R.G. & Lavina, E.L.C. 2003. Icnofauna de ritmitos do topo da Formação Mafra (Permo-Carbonífero da Bacia do Paraná) en Rio Negro, Estado do Paraná (PR), Brasil. Asociación Paleontológica Argentina, Publicación Especial, 9: 131-139. # *Cruziana, Diplichnites, Diplichnites gouldi, Diplopodichnus biformis, Protichnites,* Permian, Carboniferous, Brazil

Bann, K.L. & Fielding, C.R. 2004. An integrated ichnological and sedimentological comparison of non-deltaic shoreface and subaqueous delta deposits in Permian reservoir units of Australia. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 273-311. # *Arenicolites, Asterosoma, Conichnus, Cylindrichnus, Diplocraterion habichi, Diplocraterion parallelum, Gyrolithes, Helminthopsis, Macaronichnus segregatis, Macaronichnus simplicatus, Ophiomorpha, Palaeophycus heberti, Palaeophycus tubularis, Parahaentzschelinia surlyki, Phycosiphon, Planolites, Psammichnites, Rhizocorallium irregulare, Rhizocorallium jenense, Rosselia rotatus, Rosselia socialis, Scolicia, Taenidium synyphes, Teichichnus rectus, Zoophycos,* fugichnia, ichnofabrics, bioturbation, deltaic, tidal, shoreface, lagoonal

Bann, K.L., Fielding, C.R., MacEachern, J.A. & Tye, S.C. 2004. Differentiation of estuarine and offshore marine deposits using integrated ichnology and sedimentology: Permian Pebbley Beach Formation, Sydney Basin, Australia. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 179-213. # *Arenicolites, Asterosoma, Bergaueria, Chondrites, Conichnus, Cylindrichnus, Diplocraterion parallelum, Diplocraterion habichi, Helminthopsis, Lingulichnus, Macaronichnus segregatis, Macaronichnus simplicatus, Palaeophycus heberti, Palaeophycus tubularis, Phycosiphon, Planolites, Psammichnites, Rhizocorallium irregulare, Rosselia rotatus, Rosselia socialis, Teichichnus rectus, Siphonichnus, Skolithos, Taenidium synyphes, Zoophycos,* fugichnia, ichnofabrics, bioturbation

Bann, K.L., MacEachern, J.A. & Gingras, M.K., 2005. Changes in latitude, changes in attitude: Two outstanding modern occurrences of the *Teredolites* ichnofacies. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 10-12. University of Auckland, Auckland. # *Caulostrepsis, Diplocraterion parallelum, Entobia, Glossifungites, Maeandropolydora, Psilonichnus, Rogerella, Teredolites clavatus, Teredolites longissimus,* recent, Willapa Bay, Washington, USA, Moreton Bay, Australia

Bann, K.L., MacEachern, J.A., Fielding, C.R. & Tye, S.C., 2005. Ichnological signatures and sedimentology of a wave-dominated deltaic deposit: The Early Permian Snapper Point Formation of southeastern Australia. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 13-15. University of Auckland, Auckland. # *Cruziana, Skolithos*

Bann, K.L., MacEachern, J.A., Fielding, C.R., Tye, S.C. & Jones, B.G., 2005. Using ichnology to

unlock complex sequence stratigraphic puzzles in coastal and marine successions deposited in low-accommodation, ice house settings: The Permian Pebbly Beach Formation, Australia. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 16-18. University of Auckland, Auckland. # *Conichnus, Diplocraterion habichi, Glossifungites, Lingulichnus*

Bann, K.L., Pemberton, S.G., Zorn, M.E., Gingras, M.K., MacEachern, J.A. & Saunders, T.D.A. 2005. Taxonomic revision and palaeoenvironmental significance of the ichnogenus *Rosselia* Dahmer, 1937: Infaunal perspectives on waste management. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 19-21. University of Auckland, Auckland. # *Asterosoma, Cylindrichnus, Rosselia chonoides, Rosselia motivus, Rosselia reprobus, Rosselia rotatus, Rosselia socialis, Teichichnus,* Permian, Australia, Cretaceous, USA

Barco, J.L., Canudo, J.I., Ruiz-Omeñaca, J.I., Pérez-Lorente, F. & Rubio de Lucas, J.L. 2004. Ichnological evidence of the presence of gigantic theropods in the Berriasian (Lower Cretaceous) of Spain. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 18-19. # *Irenesauripus, Megalosauripus*

Barco, J.L., Castilla, D., Rasal, S., Rubio, C.J. & Ruiz-Omeñaca, J.I. 2004. The "Ruta de las Icnitas", use of palaeontological knowledge as a tourist resource in Soria, Spain. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 18. # *Compsognathus, Iguanodon,* Mesozoic

Bartels, C., Briggs, D.E.G. & Brassel, G. 1998. The fossils of the Hunsrück Slate – marine life in the Devonian. Cambridge University Press, xiv + 309 p. # *Arcichnus saltatus, Chondrites, Ctenopholeus kutscheri, Dimorphichnus, Diplichnites, Heliochone hunsrueckiana, Monomorphichnus,* Germany

Bayon, C. & Politis, G. 1993. Las pisadas humanas del sitio Monte Hermoso 1 (Municipio Urbano de Monte Hermoso, Pcia. de Buenos Aires). Primera Reunion Argentina de Icnologia, Santa Rosa, La Pampa, Argentina, 29 de Junio al. 6 de Julio de 1993, Resumen y Conferencias Invitadas, p. 8. # *Homo,* footprints

Beavington-Penney, S.J., Wright, V.P. & Racey, A. 2005. Sediment producing and dispersal on foraminifera-dominated early Tertiary ramps: the Eocene El Garia Formation, Tunisia. Sedimentology, 52(3): 537-569. # *Thalassinoides*, [*Nummipera eocenica*], spatangoid echinoids

Becker, A. 2005. Fazies und sedimentäre Zyklen in der untern Volpriehausen-Formation (Mittlerer Buntsandstein, Trias) im Tontagebau Baalberge bei Bernburg (südöstlisches Subherzynes Becken, Sachsen-Anhalt) (Facies and sedimentary cycles in the lower Volpriehausen Formation (Middle Buntsandstein, Triassic) in the clay pit Baalberge near Bernburg (south-eastern Subhercynian Basin, Sachsen-Anhalt)). Hallesches Jahrbuchder Geowissenschafen, 19: 109-120. # *Palaeophycus,* Triassic, Germany

Becker, M., Meier, J. & Slattery, W. 1999. Spiral coprolites from the Upper Cretaceous Wenonah-Mt. Laurel and Navesink formations in the northern coastal plain of New Jersey: Northeastern Geology and Environmental Sciences, 21(3): 181-187.

Bellosi, E.S. 2004. Sedimentologic control of the *Coprinisphaera* ichnofacies. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 19. # *Celliforma, Pallichnus, Teisseirei,* Late Cretaceous-Quaternary, Argentina

Bellosi, E.S. & Genise, J.F. 2004. Insect trace fossils from paleosols the Sarmiento Formation (Middle Eocene-Lower Miocene) at Gran Barranca (Chubut Province). In: Bellosi, E.S. & Melchor, R.N. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Fieldtrip

GuideBook, p. 15-29. # *Beaconites coronus, Celliforma* isp., *Coprinisphaera, Teisseirei barattinia, Notostylops, Astrapontus, Astrapontus plus superieur, Phyrotherium, Colpodon,* termite nests, rhizoliths, Argentina

Bellosi, E. S., Genise, J.F. & González, M. 2004. Origen y desmantelamiento de lateritas paleógenas del sudoeste del Uruguay (Formación Asencio). Revista del Museo Argentino de Ciencias Naturales, 6: 25-40.

Benner, J.S., Ekdale, A.A. & De Gibert, J.M. 2004. Macroborings (*Gastrochaenolites*) in Lower Ordovician hardgrounds of Utah: sedimentologic, paleoecologic, and evolutionary implications. Palaios, 19: 543-550. # *Gastrochaenolites, Petroxestes, Thalassinoides,* Utah, Ohio, Missouri, Arkansas, Montana, USA, Labrador, Canada

Bergström, J. & Ahlberg, P. 1998. Stop 7. Hardeberga Quarry. In: Ahlberg, P. (ed.), Guide to Excursions in Scania and Västergötland, southern Sweden. Lund Publications in Geology, 141: 28-31. # *Didymaulichnus, Diplocraterion parallelum, Planolites, Psammichnites, Rusophycus parallelum, Skolithos linearis, Syringomorpha nilssoni,* Cambrian, Sweden

Bertling, M. 2004. The earliest Mesozoic coral borers. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 4. # *Entobia, Maeandropolydora, Trypanites,* general, bioerosion, Triassic, China

Bertling, M., Braddy, S., Bromley, R.G., Demathieu, G.D., Mikuláš, R., Nielsen, J.K., Rindsberg, A.K., Schlirf, M. & Uchman, A. 2003. Draft proposal to emend the Code with respect to trace fossils: request for comments. Bulletin of Zoological Nomenclature, 60: 141-142.

Bertling, M., Braddy, S., Bromley, R.G., Demathieu, G.D., Genise, J.F., Mikuláš, R., Nielsen J.-K., Nielsen, K.S.S., Rindsberg, A.K., Schlirf, M. & Uchman, A. 2004. Trace fossil nomenclature and ichnotaxonomy – a uniform approach. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 19-20. # general

Bertling, M., Rindsberg, A.K., Schlirf, M., Nielsen, J.K., Mikuláš, R., Genise, J., Nielsen, K.S.S., Uchman, A. & Bromley, R.G. 2004. [Discussion]. Bulletin of Zoological Nomenclature, 61(1): 37-39. # taxonomy, nomenclature, general

Bertling, M., Rindsberg, A.K., Schlirf, M., Nielsen, J.K., Mikuláš, R., Nielsen, K.S.S., Uchman, A. & Bromley, R.G., 2004, Comment on the draft proposal to emend the Code with respect to trace fossils – reply (Proposal: see BZN 60: 141-142, Comment: see BZN 60: 215-216): Bulletin of Zoological Nomenclature, 61: 37-39.

Bett, B., Rice, A.L. & Thurston, M.H. 1995. A quantitative photographic survey of 'spoke-burrow' type lebensspuren on the Cap Verde Abyssal Plain. Internationale Revue der Gesamten Hydrobiologie, 80: 153-170. # echiuran, *Maxmuelleria,* Atlantic

Bitner, M. A. 1996. Encrusters and borers of brachiopods from the La Meseta Formation (Eocene) of Seymour Island, Antarctica. Polish Polar Research, 17(1-2):21-28. # [*Oichnus*], *Podichnus, Talpina*, microborings, echinoid scratches, borings, shells

Blissett, D.J. & Hunter, A.W. 2005. Review of "Marine Hard Substrates: Colonization and Evolution," a Thematic Session at the Geological Society of America Annual Meeting, Denver, USA, November 7-10, 2004. Ichnos, 12(4): 301-302. # *Gastrochaenolites, Sabellaria vulgaris*, Paleozoic

Bölücek, C. & Ilhan, B. 2006. AS survey of pyritised animal, plant, and trace fossils and concretionary pyrites, Germav Formation, southeastern Turkey. Compte Rendu des Geoscience, 338: 161-171. # pyritization, bioturbation, Cretaceous

Bolliger, T. 1992. Kleinsäugenrstraigraphie in der miozänen Hörnlischüttung (Ostschweiz). Documenta Naturae, 75: 1-29. München. # *Rhizocorallium jenense, Hexagenia,* mayfly, Ephemerida, Mocene

Bordy, E.M. & Catuneanu, O. 2002. Sedimentology and palaeontology of upper Karoo aeolian stata (Early Jurassic) in the Tuli Basin, South Africa. Journal of African Earth Sciences, 35: 301-314. # footprints, vertebrates, dinosaurs, burrows, *Skolithos,* [*Termitichnus*], insects, termites, nonmarine

Bordy, E.M., Bumby, A.J., Catuneanu, O. & Eriksson, P.G. 2004. Advanced Early Jurassic termite (Insecta: Isoptera) nests: evidence from the Clarens Formation in the Tuli Basin, Southern Africa. Palaios, 19: 68-78. # insects, eolian strata, terrestrial, burrows

Borghi, L. & Fernandes, A.C.S. 2001. A new trace fossil from the Devonian of the Paraná state (Paraná Basin), Brazil. Boletim do Museu Nacional, Nova Série, Rio de Janeiro – Brasil, Geologia, 58: 1-12. # *Arenicolites, Arthrophycus alleghanensis, Circulichnis, Conostichus, Cruziana, Cylindrichnus concentricus*, *Dydimaulichnus lyelli, Furnasichnus langei* ichgen. n., isp. n., *Lockeia, Monocraterion, Palaeophycus alternatus, Palaeophycus tubularis*, *Planolites, Rusophycus, Skolithos ayalis*

Braddy, S. 2004. Ichnological evidence for the arthropod invasion of land. Fossils and Strata, 51: 136-140. # *Arenicolites, Artharia, Asaphodichnus, Astropolithon, Beaconites, Bergaueria, Bipodomoprpha, Cochlichnus, Cruziana, Didymaulichnus, Didymaulyponomos, Diplichnites, Gordia, Heimdallia, Helicodromites, Helminthoidichnites, Laevicyclus, Lockeia, Lunatucubichnus, Merostomichnus, Monomorphichnus, Oniscoidichnus, Palaeophycus, Paleohelcura, Palmichnium, Petalichnus, Planolites, Polarichnus, Protichnites, Psammichnites, Pteridichnites, Rouaultia, Rusophycus, Sabellarifex, Selenichnites, Scoyenia, Shamaoichnus, Sintanichnus, Skolithos, Steinfjordichnus, Stiaria, Striatichnium, Taphrhelminthoides, Teichichnus, Tigillites, Torrowangea, Treptichnus, Tumblagoodichnus, Xizangichnus, Ziguichnus,* evolution, non-marine, USA, Australia, South Africa, Spain, Antarctica, Jordan, Canada, Czech Republic, Norway, China

Braddy, S.J. 1995. The ichnotaxonomy of the invertebrate trackways of the Coconino Sandstone (Lower Permian), northern Arizona. In: Lucas, S.G. & Heckert, A.B. (eds.), Early Permian Footprints and Facies, Albuquerque, 1995. Bulletin of the New Mexico Museum of Natural History and Science, 6: 219-224. # arthropod trackways, ichnotaxonomy, methodology

Braddy, S.J. 2004. Ichnological evidence for the conquest of land. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 20-21. # Late Cambrian, Ordovician, Silurian, Devonian

Brandt, D.S., Lask, P.B. & Mayer, D.L., 1992. Co-occurrence of trilobite and 'worm' traces: predation, coincidence or exploitation? Geological Society of America Abstracts with Programs, 24: A311. # *Palaeophycus, Rusophycus*

Breithaupt, B.H., Matthews, N.A. & Noble, T.A. 2004. An integrated approach to three-dimensional data collection at dinosaur tracksites in the Rocky Mountain West. Ichnos, 11(1-2): 11-26. # methods, USA

Breton, G. 2004. *Nummipera eocenica* Hölder, 1989 est un nomen dubium pour un ichnotaxon douteux. Bulletin de la Société Géologique de Normandie et des Amis du Muséum du Havre, 90(2) (for 2003): 43-44. # *Baronichnus,* Eocene, Poland, Croatia

Bromley, R.G. 2003. Bioerosion of Pleistocene *Lophelia*. Erlanger geologische Abhandlungen, Sonderband, 4: 24.

Bromley, R.G. 2004. A stratigraphy of marine bioerosion. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 455-481. # *Oichnus, Trypanites, Entobia, Gastrochaenolites, Petroxestes, Orthogonum,* Rapalonariidae*, Palaeoconchocelis, Rogerella, Scolicia, Polyactinia, Reticulina, Planobola, Caulostrepsis, Podichnus,* Orbignyporidae*, Fasciculus, Maeandropolydora, Palaeosabella, Talpina, Nododendrina, Platydendrina, Ramodendrina, Clionolithes, Casteropora, Fischerella, Hyellomorpha,* Voigtellidae*, Eurygonum, Gnathichnus, Cavernula, Rhopalia, Saccomorpha, Dendrina, Globodendrina, Cunctichnus, Spirichnus,*

Circolites, Lapispecus, Centrichnus, Teredolites, Foraripora, Planovolites, Radulichnus, Leptichnus, Helicotaphrichnus, Belichnus, Phrixichnus, Renichnus, Dendrorete, Stellichnus

Bromley, R.G. 2004. Sensitive and insensitive bioerosion: closeness bioeroder identification influences the value of the palaeonvironmental tool. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 5-6. # *Clionolithes, Globodendrina, Hyellomorpha, Trypanites, Palaeosabella, Oichnus, Gnathichnus, Radulichnus, Rogerella, Talpina*

Bromley, R.G. 2005. Preliminary study of bioerosion in the deep-water coral Lophelia, Pleistocene, Rhodes, Greece. In: Freiwald, A. & Roberts, J.M. (eds.), Cold-water Corals and Ecosystems. Springer-Verlag, Berlin & Heidelberg, p. 895-914.

Bromley, R.G. 2005. *Podichnus centrifugalis* Bromley & Surlyk, 1973 revisited: attachment scars of brachiopods. In: Harper, D.A.T., Long, S.L. & McCorry, M. (eds.), Fifth International Brachiopod Congress, Copenhagen 2005, Abstracts, p. 9.

Bromley, R.G., 2005. The Amuri *Zoophycos* of New Zealand, two contrasting models compared: Bioturbation deep down under. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 22-23. University of Auckland, Auckland. # *Echinospira*, *Rhizocorallium, Zoophycos rhodensis,* Amuri Limestone Group, Late Cretaceous – Early Oligocene, South Island

Bromley, R.[G.] & Asgaard, U. 2003. Historien om et mønster. Varv, 2003(3): 3-7.

Bromley, R.[G.] & Asgaard, U. 2003. Timing the progress of bioerosion: test-blocks retrieved 2100 years after deposition, Antikythira, Greece. 7th International Ichnofabric Workshop, Basel, Switzerland 14-16 July 2003, Abstracts, p. 13-14.

Bromley, R.G. & Asgaard, U. 2004. Archaeological disaster a bioerosion goldmine: test-blocks retrieved 2100 years after deposition, Antikythira, Greece. In: Mikuláš, R. (ed.), Abstract Book, 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, p. 5-6.

Bromley, R.G. & Asgaard, U. 2004. Archaeological disaster a bioerosion goldmine: test-blocks retrieved 2100 years after deposition, Antikythira, Greece. In: Mikuláš, R. (ed.) 2004. 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 5-6. # *Gastrochaenolites torpedo, Lithophaga lithophaga, Prixichnus prix*

Bromley, R.G. & Hanken, N.-M. 2003. Structure and function of large, lobed Zoophycos, Pliocene of Rhodes, Greece. Palaeogeography, Palaeoclimatology, Palaeoecology, 192: 79-100.

Bromley, R.G. & Heinberg, C. 2006. Attachment strategies of organisms on hard substrates: a palaeontological review. Palaeogeography, Palaeoclimatology, Palaeoecology, 232: 429-453. # *Radulichnus, Oichnus, Gastrochaenolites, Gnathichnus, Circolites, Centrichnus, Leptichnus, Podichnus, Entobia, Renichnus*, borings, Pleistocene, Holocene, USA, New Zealand, Mauritius, Rhodes, Greece, Spain

Bromley, R.G. & Uchman, A. 2003. Trace fossils from the Lower to Middle Jurassic marginal marine deposits of the Sorthat Formation, Bornholm, Denmark. Bulletin of the Geological Society of Denmark, 52: 185-208.

Bromley, R.G., Uchman, A., Gregory, M.R. & Martin, A.J. 2003. *Hillichnus lobosensis* igen. et isp. nov., a complex trace fossil produced by tellinacean bivalves, Paleocene, Monterey, California, U.S.A. Palaeogeography, Palaeoclimatology, Palaeoecology, 192: 157-186.

Bromley, R.G., Uchman, A. & Mikuláš, R. 2004. Abundant *Topsentopsis* isp. in Lower Cretaceous limestone rockground, outskirts of Krakow, Poland. In: Mikuláš, R. (ed.) 2004. 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 7-8. # *Entobia solaris*, Cretaceous, Poland

Brustur, T. 2000. *Ophiomorpha* şi *Thalassinoides* din Cenomanianul inferior de la Cerna (Dobrogea de Nord, România) (*Ophiomorpha* and *Thalassinoides* in the Lower Cenomanian from Cerna [North Dobrogea, Romania]). Studii şi Cercetări de Geologie, 45: 103-110. [In Romanian, English summary]. # Cretaceous

Brustur, T. 2001. Aspura prezenței unor coprolite de vertebrate în Pleistocenul Inferior de la Leu (Oltenia, România) (About the presence of vertebrate coprolites in the Lower Pleistocene from Leu [Oltenia, Romania]). Studii şi Cercetări de Geologie, 45: 103-110. [In Romanian, English summary]. # vertebrates, carnivores, coprolites, Pleistocemne, Romania

Brustur, T. 2003. Ichnological Romanian priorities. Proceedings of the Romanian Academy, SeriesB: Chemistry, Life Sciences and Geosciences, 5(3): 121-122. # *Gryllotalpa vulgaris, Paleodictyon, Charadriipeda minor, Charadriipeda recirvirostroidea, Charadriipeda minima, Charadriipeda disjuncta, Charadriipeda becassi, Antipeda anas, Gruipeda intermedia, Gruipeda maxima, Felipeda felis, Felipeda lynxi, Canipeda longigriffa, Ardeipeda agretta, Ardeipeda gigantes, Ardeipeda incerta, Proboscipeda enigmatica*, birds, mammals, veretbrates, history, Romania

Brustur, T. 2005. An insect trace fossil (Ord. Coleoptera) in the Red Formation from the Bozului Brook Paleontological Reservation (Vrencea county). Modern and Ancient Fluvial. Deltaic and Marine Environments and Processes, Proceedings of Euro-EcoGeoCentre-Romania Danube Delta, Romania. National Institute of Marine Geology and Geo-ecology and European Centre of Excellance for Environment and Geo-ecological Studies on River-Delta-Sea System in Europe, Bucureşti-Constanța, 104-108. # recent, fluvial,. Miocene, *Hydrous*, Hydrophillidae

Brustur, T. 2005. *Phycodes dentatus* n. isp. from the Macla Flysch (Teleajen Valley, West of the Măneciu-Ungureni). Proceedings of the Romanian Academy, Series B: Chemistry, Life Sciences and Geosciences, 7(1): 39-41. # *Chondrites, Belorhaphe zickzack, Acanthorhaphe, Scolicia strozzii, Megagrapton,* flysch, Lower Cretaceous, Romania

Brustur, T. 2005. The ichnogenus *Cardioichnus* from the Vineţişu Formation (Upper Oligocene – Lower Miocene, Romania). Proceedings of the Romanian Academy, Series B: Chemistry, Life Sciences and Geosciences, 7(1): 51-53. # *Cardioichnus planus, Scolicia, Taphrhelminthopsis, Taphrhelminthoida,* flysch, Romania

Brustur, T. 2005. *Chondrites hamatus* n. isp.: a new member of the *Chondrites* group. Proceedings of the Romanian Academy, Series B: Chemistry, Life Sciences and Geosciences, 7(2-3): 109-113. # Cretaceous, Romania

Buatois, A., Bromley, R.G., Carmona, N., Mángano, M.G. & Bellosi, E. 2003. Tiering structure and ichnoguilds from Miocene lower shoreface deposits, Playa Las Cuevas, Patagonia, Argentina. 7th International Ichnofabric Workshop, Basel, Switzerland 14-16 July 2003, Abstracts, p. 15.

Buatois, L.A., Bromley, R.G., Mángano, M.G., Bellosi, E. & Carmona, N. 2003. Ichnology of shallow marine deposits in the Miocene Chenque Formation of Patagonia: complex ecologic structure and niche partitioning in Neogene ecosystems. Asociación Paleontológica Argentina, Buenos Aires, Publicación Especial, 9: 85-95.

Buatois, L.A., Gingras, M.K., MacEachern, J., Mángano, M.G., Zonneveld, J.-P., Pemberton, S.G., Netto, R.G. & Martin, A.J. 2005. Colonization of brackish-water systems through time: Evidence from the trace-fossil record. Palaios, 20: 321-347.

Buatois, L. A. & Mángano, M. G. 1996. Icnología de ambientes continentales: Problemas y perspectivas. Asociación Paleontológica Argentina, Publicación Especial, 4: 5-30. # *Skolithos, Macanopsis, Arenicolites, Planolites, Cochlichnus, Helminthopsis, Helminthoidichnites, Mermia, Cruziana, Paleohelcura, Lockeia, Cylindricum, Edaphichnium, Conichnus, Umfolzia, Paleohelcura, Kouphichnium, Taenidium, Beaconites, Rusophycus, Termitichnus, Scaphichnium, Celliforma, Coprinisphaera, Krausichnus, Fleaglellius, Vondrichnus, Tuberculichnus, Maculichna, Undichna, Treptichnus, Pustulichnus, Digitichnus, Stiaria,*

Siskemia, Mitchellichnus, Fuersichnus, Polykladichnus, Mirandaichnium, Octopodichnus, ichnofacies, insects, general, continental

Buatois, L.A. & Del Papa, C.E. 2003. Trazas fósiles de la Cuenca Tarija, Carboníifero Superior del norte argentino: aspectos icnológicos de la glaciación gondwánica. Asociación Paleontológica Argentina, Publicación Especial, 9: 119-130. # *Diplopodichnus biformis, Diplichnites gouldi, Cochlichnus, Helminthoidichnites, Gordia marina, Helminthopsis tenuis*, *Mermia crickens,* glaciation, lacustrine, Carboniferous, Argentina

Buatois, L.A. & Mángano, M.G. 2003. Early colonization of the deep sea: Ichnologic evidence of deep-marine benthic ecology from the Early Cambrian of northwest Argentina. Palaios 18: 572-581. # *Oldhamia flabellata, Oldhamia radiata, Helminthoidichnites tenuis, Helminthopsis tenuis, Helminthopsis abeli, Cochlichnus anguineus, Palaeophycus tubularis, Diplichnites gouldi, Circulichnis montanus, Didymaulichnus lyelli*, evolution, ichnoguilds, flysch, deep-sea

Buatois, L.A. & Mángano, M.G. 2004. Animal-substrate interactions in freshwater environments: applications of ichnology in facies and sequence stratigraphic analysis of fluvio-lacustrine successions. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 311-335. # *Scoyenia, Coprinisphaera* ichnofacies*, Mermia* ichnofacies*, Skolithos* ichnofacies, *Beaconites barretti, Taenidium, Umfolzia, Merostomichnites, Diplichnites, Hexapodichnus, Permichnium, Acripes, Cruziana, Rusophycus, Planolites, Palaeophycus, Cochlichnus anguineus, Lockeia, Fuersichnus, Macanopsis, Cylindricum, Camborygma, Limnopus, Anthichnium, Chirotherium, Rhynchosauroides, Grallator, Eubrontes, Mylodontichnium, Neomagatherichnium, Jindongornipes, Koreanornis, Mirandaichnium, Helminthoidichnites, Tuberculichnus, Circulichnis, Ctenopholeus kutscheri, Vagorichnus, Undichna,* general, fluvial, Permian, Argentina, Triassic, China

Buatois, L.A. & Mángano, M.G. 2004. Neoproterozoic-Early Cambrian ecosystems: Ichnology of the Puncoviscana Formation, Northwest Argentina. Fossils and Strata, 51: 1-16. # *Archaeonassa fossulata, Circulichnis montanus, Cochlichnus anguineus, Didymaulichnus lyelli, Diplichnites, Helminthopsis abeli, Helminthopsis tenuis, Helminthoidichnites tenuis, Multina, Nereites saltensis, Oldhamia antiqua, Oldhamia radiata, Palaeophycus tubularis, Saerichnites, Treptichnus pollardi, Volkichnium volki, Protopaleodictyon, Squamodicty*on, agronomic revolution, deep-sea, evolution, Precambrian, Cambrian

Buatois, L.A. & Mángano, M.G. 2004. Synopses. Fossils and Strata, 51: iv-v. # summaries

Buatois, L.A. & Mángano, M.G. 2005. Discussion and reply: The Cambrian System in Northwestrn Argentina: stratigraphical and palaeontological framework. Discussion. Geologica Acta, 3(1): 65-72. # *Nereites saltensis, Tasmanadia, Oldhamia antiqua, Oldhamia radiata, Cruziana semplicata, Rusophycus leifeirikssoni, Syringomorpha, Daedalus, Treptichnus pedum, Phycodes pedum, Aulichnus, Psammichnites, Glockerichnus, helminthopsis tenuis, Helminthoidichnites tenuis, Helminthorhaphe, Helminthoida, Nereites, Palaeophycus, Torrowangea, Protichnites, Scolicia,* Precambrian, Cambrian, Ordovician, Argentina

Buatois, L.A., Bromley, R.G., Mángano, G., Bellosi, E. & Caramona, N. 2003. Ichnology of shallow marine deposits in the Miocene Chenque Formation of Patagonia: complex ecologic structure and niche partitioning in Negene ecosystems. Asociación Paleontológica Argentina. Publicación Especial, 9: 85-95. # *Thalassinoides suevicus, Ophiomorpha, Phycosiphon incertum, Schaubcylindrichnus freyi, Schaubcylindrichnus coronus, Palaeophycus heberti, Palaeophycus tubularis, Planolites montanus, Scolicia, Chondrites, Teichichnus rectus, Teichichnus zigzag, Asterosoma, Rosselia, Taenidium, Helicodromites mobilis, Entobia, Rogerella, Gastrochaenolites*, tiering, shelf, shoreface, Argentina

Buatois, L.A., Uba, C.E., Mángano, M.G., Hulka, C. & Heubeck, C. 2004. Deep bioturbation in continental environments: evidence from Miocene fluvial deposits of Bolivia. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23,

2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 21. # *Scoyenia* ichnofacies*, Taenidium*

Bubík, M., Bąk, M., Gedl, P., Prokop, J., Mikuláš, R., Švábenická, L. & Uchman, A. 2004. Výzkum změn oceánské bioty na hranici křída/terciér na lokalitě Uzgruně v magurském flyši na Moravě. 5. Paleontologická Konferencia, Zborník Abstraktov. Štátny geologický ústav Dionýa Štúra, Bratislava, p. 16. Bratislava. # Cretaceous, Palaeogene, K-T boundary, Czech Republic

Bubík, M., Petrová, P., Brzobohatý, R., Hladilová, Š., Mikuláš, R., Losos, Z. & Slobodník, M. 2005. Sedimenty karpatu a spodního badenu na ulici Kopečná v Brně. Geologické výzkumy na Moravě a ve Slezsku, 12 (for 2004): 20-24.

Budd, G.E. & Jensen, S. 1998. Trace fossils and the Cambrian explosion. Tree, 13(12): 507. # trace fossils, Cambrian

Buffetaut, E. 2004. Footprints of giant birds from the Upper Eocene of the Paris Basin: An ichnological enigma. Ichnos, 11(3-4): 357–362. # *Gastornis*

Bundschuh, M. 2000. Silurische Mikrobohrspuren. Ihre Beschreibung und Verteilung in verschiedenen Faziesräumen (Schweden, Litauen, Großbritannien und USA). Ph.D. Thesis, FB Geowissenschaften, Fachbereich Geowissenschaften, Johann Wolfgang Goethe-Universität Frankfurt am Main: 1-129.

Burns, F.E. & Krieger, F. 2004. Assessment of marine influence on deposition of Middle Jurassic fluvio-deltaic strata using ichnology, Bayu-Undan Field, Timor Sea: implications for field-scale correlation and reservoir modelling. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 22. # *Ophiomorpha nodosa, Skolithos, Teichichnus zigzag, Palaeophycus, Ophiomorpha, Planolites*

Burns, F.E., 2005. Ichnological signature of tidally influenced, fluvio-deltaic strata: Examples from the Middle Jurassic of the Timor Sea, Australia. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 24-26. University of Auckland, Auckland. # *Chondrites, Diplocraterion, Ophiomorpha nodosa, Palaeophycus, Phycosiphon, Planolites, Rosselia, Skolithos, Teichichnus zigzag,* fluvial

Burns, F.E., Bal, A. & Battrick, M. 2004. Ichnofabrics within a sandy tide-dominated incised valley fill system: Early Cretaceous Barrow Group, Carnarvon Basin, Western Australia. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 21-22. # *Ophiomorpha nodosa, Skolithos, Teichichnus zigzag, Ophiomorpha, Phycosiphon*

Burns, F.E., Burley, S.D., Gawthorpe, R.L. & Pollard, J. 2005. Diagenetic signatures of stratal surfaces in the Upper Jurassic Fulmar Formation, Central North Sea, UKCS. Sedimentology, 52(6): 1155-1185. # *Ophiomorpha nodosa, Ophiomorpha irregulaire, Teichichnus zigzag, Palaeophycus, Phycosiphon, Diplocraterion parallelum, Diplocraterion habichi, Chondrites, Arenicolites, Asterosoma, Schaubcylindrichnus,* diagenesis, sequence stratigraphy

Buta, R.J., Kopaska-Merkel, D.C., Rindsberg, A.K. & Martin, A.J. 2005. Atlas of Union Chapel Mine invertebrate trackways and other traces. In: Buta, R.D., Rindsberg, A.K. & Kopaska-Merkel, D.C. (eds.), Pennsylvanian Footprints in the Black Warrior Basin of Alabama. Alabama Paleontological Society Monograph, 1: 277-337. Birmingham, Alabama.

Buta, R.J., Rindsberg, A.K. & Kopaska-Merkel, D.C. (eds.), 2005. Pennsylvanian Footprints in the Black Warrior Basin of Alabama: Alabama Paleontological Society, Monograph, 1: 1-392. Birmingham, Alabama.

Cadée, G.C. 2005. Predator-prey interactions in the fossil record. Ichnos, 12: 75-77. # Kelly, P.H., Kowalewski, M., Hansen, T., book review

Campbell, K.A. & Nesbitt, E.A., 2005. Using trace fossils to establish relative timing relationships and

nature of fluid-flow in hydrocarbon seep carbonates and associated strata. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 27. University of Auckland, Auckland. # *Solemyatuba*, *Favreina*, *Chondrites*, *Zoophycos*, geochemistry

Čáp, P. & Mikuláš, R. 2004 Traces of bioerosion in the Lower Carboniferous limestones at Mokrá (Moravia, Czech Republic). In: Mikuláš, R. (ed.) 2004. 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 9-10. # *Trypanites, Gastrochaenolites oelandicus, Pridolichnus*

Capowiez, Y., Renault, P. & Belzunces, L. 2001. Three-dimensional trajectories of ^{60}Co-labelled earthworms in artificial cores of soil. European Journal of Soil Science, 52(3): 365-375. # recent,

Carloni, A. & Monaco, P. 2004. Facies sedimentarie e ichnocenosi in un sistema deltizio/estuario della Formazione Piedra Calvada (Cretaceo), Bacino Australe (Argentina). Bolletino della Societàn Geologica Italina, 123(2): 127-161. # *Teredolites, Arenicolites, Diplocraterion parallelum* var*. lingum, Diplocraterion habichi, Ophiomorpha nodosa, Polykladichnus, Curvolithus simplex, Thalassinoides, Gyrochorte, Rhizocorallium, Rosselia, Cochlichnus, Gastrochaenolites, Planolites, Phycodes, Monocraterion, Teichichnus, Lockeia, Palaeophycus, Skolithos linearis, Helicolithus, Chondrites, Bergaueria,* deltaic*,* Cretaceous, Argentina

Carmona, N., Bromley, R.G., Buatois, L.A., Mángano, M.G. & Bellosi, E. 2003. Ichnofabric analysis of a shallow marine deposit, Chenque Formation, Lower Miocene, Punta Delgada, Patagonia, Argentina. 7th International Ichnofabric Workshop, Basel, Switzerland 14-16 July 2003, Abstracts, p. 16.

Carmona, N.B. & Buatois, L.A. 2003. Estructuras biogénicas de crustaceos en el Mioceno de la Cuenca del Golfo San Jorge: implicancias paleobiológicas y evolutivas. Asociación Paleontológica Argentina, Publicación Especial, 9: 97-108. # *Ophiomorpha, Thalassinoides, Spongeliomorpha, Callianassa major, Callichirus major, Callianassa brachiophthalma,* Miocene, Argentina

Carmona, N., Buatois, L.A. & Mángano, M.G. 2004. The trace fossil record of the decapod crustacean radiations. Fossils and Strata, 51: 141-153. # *Ophiomorpha, Psilonichnus, Thalassinoides horizontalis, Thalassinoides suevicus, Thalassinoides bacae, Pholeus, Gyrolithes polonicus, Spongeliomorpha, Ardelia, Macanopsis, Sinusichnus, Aulophycus,* evolution, crustaceans, general

Carmona, N.B., Buatois, L.A., Mángano, M.G., Bromley, R.G. & Bellosi, E.S. 2004. Shallow marine invertebrate trace fossils from Lower Miocene Chenque Formation (Chubut and Santa Cruz Province). In: Bellosi, E.S. & Melchor, R.N. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Fieldtrip GuideBook, p. 67-79. # *Cruziana, Skolithos, Ophiomorpha, Asterosoma, Gyrolithes, Thalassinoides, Phycosiphon, Schaubcylindrichnus freyi, Chondrites* isp., *Scolicia, Rosselia, Palaeophycus heberti, Palaeophycus tubularis, Planolites montanus, Teichichnus rectus, Schaubcylindrichnus, Phycosiphon incertum, Thalassinoides suevicus, Teichichnus zigzag, Helicodromites mobilis, Palaeophycus heberti, Schaubcylindrichnus coronus, Taenidium* isp., *Entobia* isp., *Rogerella* isp., *Gastrochaenolites* isp., *Glossifungites,* Argentina

Carmona, N.B., Ponce, J.J., López-Cabrera, M.I. & Olivero, E.B. 2006. Distribución y diversidad de trazas fósiles en hiperpicnitas: implicancias etológicas y comparación con patrones de trazas fósiles en turbiditas clásicas. Ponencia. 9º Congreso Argentino de Paleontología y Bioestratigrafía. Córdoba, Argentina 2006.

Carmona, N., Ponce, J.J., Mángano, M.G. & Buatois, L.A. 2004. Variability of the *Glossifungites* ichnofacies at the Lower Miocene boundary between the Sarmiento and Chenque

Formations, Patagonia, Argentina. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 23. # *Gastrochaenolites, Thalassinoides*

Carmona, N.B., Ponce, J.J., Mángano, M.G. & Buatois, L.A. 2005. Icnología de depósitos mareales de la Formación Chenque (Mioceno temprano) en Caleta Olivia, Santa Cruz, Argentina. Ponencia. Reunión Anual de Comunicaciones y Simposio del 50º Aniversario de la Asociación Paleontológica Argentina y Primer Simposio de Paleontología y Geología de la Península Valdéz. Puerto Madryn, Argentina, 40 p.

Carrión, J.S., Gil, G., Rodríguez, E., Fuentes, N., García-Antón, M. & Arribas, A. 2005. Palynology of badger coprolites from central Spain. Palaeo-3, 226, 259-271.

Carter, J.G. & Stanley, G.D., Jr., 2004. Late Triassic gastrochenid and lithophaginid borings (Mollusca: Bivalvia) from Nevada (USA) and Austria. Journal of Paleontology, 78(1): 230-234. # *Gastrochaena, Lithophaga*, [*Gastrochaenolites*], borings, USA

Carvalho, C.N, de, 2004. Fractal implications in spatial and evolutionary paleoecology of the *Daedalus* producer (ichnofabric analysis). In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 23-24. # Ordovician, Portugal

Carvalho, C.N, de, 2004. Roller coaster behavior in the *Cruziana rugosa* group from Penha Garcia (Portugal): estimating creativity in the alimentary programmatic contents of trilobitomorphs. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 24. # *Cruziana birensis, Cruziana furcifera, Rusophycus, Cruziana rouaulti,* Ordovician

Carvalho, I. S., de, Fernandez, A.C.S., Andreis, R.R., Paciullo, F.V.P. & Ribeiro, A. 2004. The ichnofossils of the Hope Bay Formation (Trinity Peninsula Group, Triassic), Antarctica. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 25. # *Arenicolites, Lophoctenium, Palaeophycus, Phycosiphon, Taenidium*

Carvalho, I. S. de. 2004. Dinosaur footprints from northeastern Brazil: Taphonomy and environmental setting. Ichnos, 11(3-4): 311–321. # sauropods, theropods, alluvial fan, braided river

Carvalho, I.S., Fernandes, A.C.S., Andreis, R.R., Paciullo, F.V.P., Ribeiro, A. & Trouw, R.A.J. 2005. The Ichnofossils of the Triassic Hope Bay Formation, Trinity Peninsula Group, Antarctic Peninsula. Ichnos, 12(3): 191-200. # *Lophoctenium, Taenidium, Palaeophycus tubularis, Phycosiphon incertum, Rhizocorallium, Skolithos, Arenicolites, Cruziana, Glossifungites, Planolites, Macaronichnus, Scoyenia, Chondrites, Zoophycos, Teichichnus, Thalassinoides, Ophiomorpha,* Antarctica

Casadio, S. 1993. Irnportancia de las estructuras sedimentarias biogénicas en el análisis estratigráfico secuencial del Grupo Malargue, La Pampa, Argentina. Primera Reunion Argentina de Icnologia, Santa Rosa, La Pampa, Argentina, 29 de Junio al. 6 de Julio de 1993, Resumen y Conferencias Invitadas, p. 9.

Chacón, E., Perez, A., Ramirez, E.L., Wojciechowski, M. & Garcia-Pichel, F. 2005. Molecular and geologic signatures of microboring photographic communities un marine carbonates from Cabo Rojo, Puerto Rico. In: 24th IAS Meeting of Sedimentology, Scenic Sedimentology, Muscat, 10-13 January 2005, p. 40. # microboring, recent

Chakraborty, A. & Bhattacharya, H.N. 2005. Ichnology of a Late Paleozoic (Permo-Carboniferous) glaciomarine deltaic environment, Talchir Formation, Saharjuri Basin, India. Ichnos, 12: 31-45. # *Cylindrichnus, Diplocraterion parallelum, Monocraterion, Nereites, Palaeophycus alternatus, Palaeophycus heberti, Planolites annularis, Planolites*

beverleyensis, Rhizocorallium jenense, Rhizocorallium irregulare, Skolithos, Taenidium serpentinum, Teichichnus rectus, Zoophycos, Permian, India
Chiappe, L.M., Schmitt, J.G., Jackson, F.D., Coria, R.A., Garrido, A., Dingus, L. & Grellet-Tinner, G. 2004. Nest structures of sauropod dinosaurs from the Late Cretaceous of Patagonia. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 25-26. # Argentina
Chiappe, L.M., Schmitt, J.G., Jackson, F.D., Garrido, A., Dingus, L. & Grellet-Tinner, G. 2004. New structure for Sauropods: sedimentary criteria for recognition of dinosaur nesting traces. Palaios, 19(1): 89-95. # Titanosaurid sauropods, Upper Cretaceous, Anacleto Formation, Patagonia, Argentina
Chiesa, J. O. 1996. Trazas fósiles de la Formación El Chacay (Eoceno), en la Meseta Belgrano, Santa Cruz, Argentina. Asociación Paleontológica Argentina, Publicación Especial, 4: 103-110. # *Arenicolites, Macaronichnus segregatis, Thalassinoides, Rhizocorallium irregulare,* Eocene, Argentina
Chiesa, J.O. 1993. Trazas fósiles de la Formación El Chacay (Eoceno) en la Meseta Belgrano, Santa Cruz, Argentina. Primera Reunion Argentina de Icnologia, Santa Rosa, La Pampa, Argentina, 29 de Junio al. 6 de Julio de 1993, Resumen y Conferencias Invitadas, p. 10. # Eocene
Chin, K. & Bishop, J. 2004. Traces within traces: evidence for coprophagy in a probable theropod coprolite from the Jurassic Morrison Formation of Utah, USA. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 26. # insects
Cílek, V., Mikuláš, R. & Žák, K. 2003. Pískovcové převisy středních a severních čech: jejich vznik, vývoja a sedimenty (Sandstone rockshelters of Central and Northern Bohemia: Origin, development, and sediments). In: Svoboda, J.S. (Ed.), Mezolity Severních Čech. Komplexní výzkum skalních převisů an Českolipsku a Děčínsku, 1978-2003 (Mesolithioc of Northern Bohemia. Complex Excavation of rockshelters in the Česká Lípa and Děčín areas, 1978-2003). Archellogický ústav AC ČR Brno, Národni park České Švýcarsko, Oblastní Muzum Děčín, p. 19-37, 297-305. [In Czech, Englis summary]. # mammals, ichnofabrics, bioturbation, insects, burrows, roots, kretoviny, archaelogy, Holocene, Czech Republic
Clark, N.D.L., Ross, D.A. & Booth, P. 2005. Dinosaur tracks from the Kilmaluag Formation (Bathonian, Middle Jurassic) of Score Bay, Isle of Skye, Scotland, UK. Ichnos, 12(2): 93–104. # *Grallator parallelus, Grallator cursorius, Grallator tenuis, Grallator gracilis, Grallator cuneatus, Grallator maximus, Grallator oloensis, Grallator variabilis, Eubrontes, Anchisauripus,* tetrapods, Great Britain
Cole, S.L. & McDowell, R.R. 2003. Implications of *Bifungites* from the Upper Devonian of West Virginia, USA. Geological Society of America Abstracts with Programs, Northeastern Section – 38 Annual Meeting, March 27-29. # *Bifungites, Arenicolites*
Collins, A.G., Lipps, J.H. & Valentine, J.W. 2000. Modern mucociliary creeping trails and the bodyplans of Neoproterozoic trace-makers. Paleobiology, 26(1): 47-55. # *Aulichnites, Sellaulichnus, Gordia, Helminthopsis, Treptichnus pedum, Pachycerianthus, Bilinichnus, Didymaulichnus, Pseudobiceros, Acanthozoan, Paraplanocera,* experiments, Neoproterozoic, Vendian, recent, Russia, Pacific, USA
Corrêa, L.M.S. & Fernandes, A.C.S. 2002. *Cochlichnus lagartensis* Muniz, 1980: um caso de gretas de contração senoidais. Boletim do Museu Nacional, Nova Série, Rio de Janeiro – Brasil, Geologia, 66: 1-12. # *Cochlichnus lagertensis, Manchuriophycus, Rhysonetron,* Lagarto Formation, Cambrian, Sergipe Basin, Brazil
Corrêa, L.M.S.A., Agostinho, S., Fernandes, A.C.S. & Veira, P.M. 2004. Icnofósseis da Formação Pimenteira (Devoniano da Bacia do Parnaíba), municipio de Miranorte, Estado do

Tocantins, Brasil. Arquivos do Museu Nacional, Rio de Janeiro, 62(3): 283-291. # *Bifungites* isp*, Nereites missouriensis, Rusophycus polonicus, Trichophycus, "Guilielmites" ,* Devonian, Brazil

Cosarinsky, M. 2003. Micromorphology of the mound of *Cornitermes cumulans* (Kollar) (Isoptera: Termitidae). Asociación Paleontológica Argentina, Publicación Especial, 9: 53-64. # insects, recent, Argentina

Cosarinsky, M.I., Genise, J.F. & Bellosi, E.S. 2004. Micromorphology of modern epigean termite nests and possible termite ichnofossils: a comparative analysis. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 26-27. # *Cornitermes cumulans, Termes saltans, Cortaritermes fulviceps, Nasutitermes* sp., Eocene-Miocene, Miocene, ?Cretaceous-Tertiary, Argentina, Uruguay

Cosarinsky, M.I.; Bellosi, E.S. & Genise, J.F. 2005. Micromorphology of modern epigean termite nests and possible termite ichnofossils: a comparative analysis (Isoptera). Sociobiology, 45: 1- 34.

Cosma, T.N. & Baumiller, T.K. 2005. A trace fossil on a Silurian bivalve: Evidence of predatory boring? Ichnos, 12(2): 135–139. # *Oichnus simplex*, Ohio, USA

Cotton, W.D., Hunt, A.P. & Cotton, J.E. 1995. Paleozoic vertebrate tracksites in eastern North America. *In*: Lucas, S. G. & Heckert, A. B. (eds.), Early Permian Footprints and Facies, Albuquerque, 1995, Bulletin of the New Mexico Museum of Natural History and Science, 6: 189-212. # amphibians, Pennsylvanian, Mississippian, Permian

Cousin, R. 2002. Organisation des pontes de dinodsauriens de la parafamille des Megaoolithidae Zhao, 1979. Bulletin Trimestriel de la Société Géologique de Normandie et des Amis du Muséum du Havre, 89(1-4): 1-177. # eggs, nests, dinosaurs, reptiles, tetrapods, Cretaceous, Mongolia, France, Spain

Curran, H.A. & Dustira, A.M., 2005. Ichnofabrics of some enigmatic bedding-plane trace fossils and Holocene stellate and cluster burrows, San Salvador Island, Bahamas. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 28. University of Auckland, Auckland. # Family Halictidae, insects

Curran, H.A. & Simonti, A.L., 2005. Sea stars get down: occurrence and generation of modern *Asteriacites* traces in shallow marine carbonates, Long Island, Bahamas. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 29. University of Auckland, Auckland. # *Astropecten articulatus*, *Luidia alternata, L. clathrata*, recent

Currie, P.J. 2004. The utility of Late Cretaceous footprints for determining the soft anatomy, movement and behaviour of dinosaurs and early birds. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 27. # *Tarbosaurus, Opisthocoelocaudia, Saurolopus,* Mongolia, Argentina

D'Alessandro, A. & Uchman, A. 2004. *Bichordites-Rosselia* ichnoassemblage from the Lower Pleistocene Tursi Sandstone (southern Italy). In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 28. # *Bichordites, Tursia, Bichordites, Rosselia, Macaronichnus*

D'Alessandro, A. & Fürsich, F.T. 2005. *Tursia* – a new ichnogenus from Pleistocene shallow water settings in southern Italy. Ichnos, 12: 65-73. # *Tursia flabelliformis* igen.n., isp. nov., *Bichordites*

Dallmann, W.K., Gielberg, J.G., Harland, W.B., Johannessen, E.P., Kielen, H.B., Lønøy, A., Nilsson, I. & Worsley, D. 1999. Upper Palaeozoic lithostratigraphy. In: Dallmann, W.K. (ed.), Lthostratigraphic Lexicon of Svalbard. Upper Palaeozoic to Quaternary bedrock. Review and

recommendations for nomenclature use. Norsk Polarisnstitut, Tromsø, p. 25-214. # *Rhizocorallium, Thalassinoides, Zoophycos*, Permian, Norway

Dallmann, W.K., Midbøe, P.S., Nøttvedt, A. & , R. 1999. Tertiary lithostratigraphy. In: Dallmann, W.K. (ed.), Lthostratigraphic Lexicon of Svalbard. Upper Palaeozoic to Quaternary bedrock. Review and recommendations for nomenclature use. Norsk Polarisnstitut, Tromsø, p. 215-253. # *Skolithos, Diplocraterion, Arenicolites, Ophiomorpha,* Eocene, Oligocene, Norway

Damborenea, S.E. & Manceñido, M.O. 1993. First report on burrowing traces in intrnal moulds of shells from the Middle Jurassic of Western Argentina. Primera reunion de Icnologia, Santa Rosa, La Pampa, Argentina, 29 de Junio al. 6 de Julio de 1993, Resumen y Conferenciales Invitadas, p. 11. # *Arachnostega*

Damborenea, S.E. & Manceñido, M.O. 1994. Icnofosiles de los depositos del Jurasico Inferior de la region del Rio Atuel (Mendoza, Argentina). Ameghiniana, 31(4): 396. # *Chondrites, Planolites, Paleophycus, Rhizocorallium, Thalassinoides, Gordia, Lapispira,* Jurassic, Argentina

Damborenea, S.E. & Manceñido, M.O. 1996. Icnofosiles (nucleocavia) preservados sobre moldes internos de conchillas del Jurassico Medio del Oeste Argentino. Asiciación Palentológico Argentina, Publicacion Especial, 4: 111-120. # *Arachnostega gastrochaenae, Korymbichnus conflabellatus* igen. n. isp. n., Jurassic, Argentina

Damholt, T. & Surlyk, F. 2004. Laminated-bioturbated cyckles in Maastrichtian chalk of the North Sea: oxygenation fluctuations within the Milankovitch frequency band. Sedimentology, 51(6): 13-23-1342. # *Zoophycos, Chondrites,* ichnofabric, Cretaceous

Dashtgard, S.E. & Gingras, M.K. 2005. The temporal significance of bioturbation in backshore deposits: Waterside Beach, New Brunswick, Canada: Palaios, 20, 589-595

Dashtgard, S.E. & Gingras, M.K. 2005. Facies architecture and ichnology of recent salt-marsh deposits: Waterside Marsh, New Brunswick, Canada: Journal of Sedimentary Research, 75, 596-607.

Dashtgard, S. E. & Gingras, M.K., 2005. Temporal implications of bioturbation in upper foreshore and backshore deposits. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 31. University of Auckland, Auckland. # Talitrid amphipod burrows, recent, Canada

Dashtgard, S.E. & Gingras, M.K. 2004. Formation of *Diplocraterion parallelum* and *D. polyupsilon* by *Corophium volutator* in semi-firm and firm substrates: Bay of Fundy, Canada. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 28-29. # *Diplocraterion yoyo,* recent

Dávid, Á. & Bene, K. 2004. Pathological alterations of Middle-Miocene *Sparus umbonatus* (Münster, 1846) molars (Danitz-puszta, Mecsek Mts., Hungary. In: Mikuláš, R. (ed.) 2004. 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 12. # pathology

Dávid, Á. 2003. Bióeroziós nyomok, patológiás elváltozások és epizoák a Mátra Múzeum Wind gyári puhatestűinek mészvázain. Folia Historico naturalia Musei Matraensis, 27: 5-32. [In Hhungarian]. # *Entobia, Oichnus paraboloides, Oichnus simplex*, shells, bioerosion, Miocene, Hungary

Dávid, Á. 2004. The occurrence of the ichnogenus *Teredolites* in Egerian Age Formations from Hungary. In: Mikuláš, R. (ed.) 2004. 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 11. # *Teredolites longissimus*, Miocene

David, Á., 2005. Worms, borings, substrates from Paleogene and Neogene formations of Hungary. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 32-33. University of Auckland, Auckland. # Polychete, Sipunculid worms, *Caulostrepsis, Helicotaphrichnus,*

Maeandropolydora, Trypanites, Eocene, Miocene
Davies, N.S., Sansom, I.J., Turner, P., 2006, Trace fossils and paleoenvironments of a Late Silurian marginal-marine/alluvial system: the Ringerike Group (lower Old Red Sandstone), Oslo region, Norway. Palaios, 21: 46-62.
De, C. 2005. Biophysical model of intertidal beach crab burrowing: application and significance. Ichnos, 12: 11-29. # biophysics, intertidal, *Ilyoplax pussilus*, *Ocypode stimpsoni, Psilonichnus,* Ganges deltas, India
De, C. 2005. Quaternary ichnofacies model for paleoenvironmental and paleosealevel interpretations: a study from the Banas River Basin, western India. Journal of Asian Earth Sciences, 25: 233-249. # *Coprinisphaera, Mermia, Skolithos, Arenicolites, Psilonichnus, Thalassinoides, Ocypode ceratophtalma, Ocypode simpsoni, Termitichnus, Protovirgularia, Oniscoidichnus, Paleoscolytus, Scaphichnium, Dendroidichnites irregularia, Diplichnites gouldi, Attaichnus, Parowanichnus, Merostomichnites, Umfolozia, Scoyenia, Mirandaichnium famatinese, Stiallia,* ichnofacies, recent, insects, arthropods
Deloison, Y. 2004. Study of the Laetoli footprints compared with those of modern man and ape. In: Kim, J.Y., Kim, K.-S., Park, S.I. & Shin, M.-K. (Eds.), Proceedings of International Symposium on the Quaternary Footprints of Hominids and Other Vertebrates. Namjejigun, p. 106-110. # Hominids, *Homo*, *Pan,* Laetoli, Pliocene, Tanzania
Demathieu, G. & Demathieu, P. 2004. Chirotheria and other ichnotaxa of the European Triassic. Ichnos, 11(1-2): 79-88. # *Synaptichnium, Chirotherium mediterraneum, Chirotherium barthii, Brachychirotherium circaparvum, Brachychirotherium pachydactylus, Rhynchosauroides, Synaptichnium argantobrivense, Synaptichnium priscum, Rotodactylus mckeei, Isochirotherium soergeli, Isochirotherium felenci, Isochirotherium coureli, Isochirotherium delicatum, Sphingopus ferox, Coelurosaurichnus largentierensis,* dinosaurs, tetrapods, tracks, France
Demírcan, H. & Toker, V. 2003. Cingöz Formasyonu Batı Yelpaze İz Fosilleri (KB Adana). Maden Tetkik Ve Arma Dergisi, 127: 83-101. [In Turkish]. # *Planolites beverleyensis, Chondrites, Zoophycos, Echinospira, Rhizocorallium, Scolicia prisca, Scolicia vertebralis, Ophiomorpha annulata, Ophiomorpha rudis, Thalassinoides, Capodistria vettersi, Lorenzinia pustulosa, Scolicia strozzii, Scolicia plana, Cosmorhaphe sinuosa, Helminthopsis, Urohelminthoida dertonensis,* flysch, Miocene
Diedrich, C. & Fichter, J. 2005. Saurienfährten im Muschelkalk (Mitteltrias) von Hessen. Geowissenschaftliche Mitteilungen, 19: 23-24. # *Rhynchosauroides tirolicus, Procolophonichnus haarmühlensis*, tetrapods, dinosaurs, reptiles, Triassic, Germany
Dieni, I. & Genise, J.F. 2004. The first European record of *Coprinisphaera* Sauer, 1955. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 31. # *Pallichnus,* late Middle Eocene, Italy
Dietl, G. P. 2004. Origins and circumstances of adaptive divergence in whelk feeding behavior. Palaeogeography, Palaeoclimatology, Palaeoeclogy, 208, 279-291.
Dietl, G.P. & Herbert, G.S. 2005. Influence of alternative shell-drilling behaviours on attack duration of the predatory snail, *Chicoreus dilectus.* The Zoological Society of London, 265: 201-206. # *Chicoreus dilectus, Chione elevata,* edge drilling, predation speed, alternative behaviours, Muricidae, Gastropoda
Dietl, G.P. & Kelley, P.H. 2004. Identifying the predator: Does drillhole shape vary among different naticid gastropod species? In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 27-28. # *Oichnus*
Domènech, R., Gibert, J.M. de & Martinell, J. 2001. Ichnological features of a marine transgression: middle Miocene rocky shores of Tarragona, Spain. Geobios, 34(1): 99-107. # *Gastrochaenolotes torpedo, Gastrochaenolotes lapidicus, Entobia, Phryxichnus,*

Maeandropolydora decipiens, Maeandropolydora sulcans, Trypanites rectus, dolomites, bioerosion
Donovan, S.K. 2003. “Continental Trace Fossils” by Stephen T. Hasiotis. Ichnos, 10: 53-54.
Donovan, S.K. 2004. The ichnofossil *Renichnus arcuatus* Mayoral, 1987 in the Pleistocene of Jamaica. Bulletin of the Mizunami Fossil Museum, 30 (for 2003): 137-140.
Donovan, S.K. 2005. “The Extended Organism: The Physiology of Animal-Built Structures” by J. Scott Turner. Ichnos, 12: 309-310. # *Chlamydomonas*
Donovan, S.K. 2005. “Pocket Naturalist Series: Animal Tracks: an Introduction to the Tracks and Signs of Familiar North American Species” by James Kavanagh, illustrated by Raymond Leung. Ichnos, 12: 311. # *Erethizon dorsatum,* book review
Donovan, S.K. 2005. A review of: “A Guide to British Mammal Tracks and Signs”, Simone Bullion (text), Rob Strachan, Guy Troughton and Simone Bullion. Ichnos, 12(2): 155–155. # book review
Donovan, S.K. 2005. A review of: “New Interpretations of Complex Trace Fossils”: New Interpretations of Complex Trace Fossils, William Miller, III (ed.), 2003, Palaeogeography, Palaeoclimatology, Palaeoecology, volume 192. Ichnos, 12(2): 151–153. # book review
Donovan, S.K. 2005. “Drilling Predation in the Fossil Records,” edited by Lindsey R. Leighton and Audrey Aronowsky. Ichnos, 12: 87-88. # Leighton, L.R., Arnovsky, A., book review, *Perditocardinia dubia*, *Pholidostrophia*, *Oichnus simplex*
Donovan, S.K., Harper, D.A.T. & Rasmussen, J.A. 2006. Taphonomy of logs bored by *Teredolites longissimus* Kelly & Bromley in the Danian (Lower Paleocene of West Greenland). Abstracts, 2nd International Palaeontological Congress, Beijing, June.
Donovan, S.K. & Hensley, C. 2004. Bivalve borings or boring bivalves? A curatorial conundrum from the Netherlands Antilles. Geological Society of America Abstracts with Programs, 36(5): 112.
Donovan, S.K. & Hensley, C. 2006. *Gastrochaenolites* Leymerie in the Cenozoic of the Antillean region. Ichnos, 13: 11-19.
Donovan, S.K., Hensley, C. & Lewis, D.N. 2005. Comment on ‘Bioerosion, preparation and curation’. The Geological Curator, 8: 177-178.
Donovan, S.K. & Jagt, J.W.M. 2004. Taphonomic and ethologic aspects of ichnology of the Maastrichtian of the type area (Upper Cretaceous, The Netherlands and Belgium). Bulletin de l’Institut Royal des Sciences Naturelles de Belgique, Science de la Terre = Bulletin van het Koninklijk Belgisch Instituut voor Natuurwetenschappen, Aardwetenschappen, 74: 119-127. # *Arachnostega gastrochaenae, Oichnus excavatus, Talpibna ramosa, Trypanites solitaris,* borings
Donovan, S.K. & Jagt, J.W.M. 2005. *Flosculichnus tectus,* an etched attachment scar from the Upper Cretaceous (Maastrichtian) of The Netherlands. Bulletin de l’Institute Royal des Sciences Naturelles de Belgique: Sciences de la Terre, 75: 207-210.
Donovan, S.K. & Jagt, J.W.M. 2005. Site selectivity of pits in the Chalk (Upper Cretaceous) echinoid *Echinocorys* Leske from France. Bulletin of the Mizunami Fossil Museum, 31 (for 2004): 21-24.
Donovan, S.K. & Jagt, J.W.M. 2005. An additional record of *Oichnus excavatus* Donovan & Jagt from the Maastrichtian (Upper Cretaceous) of southern Limburg, The Netherlands. Scripta Geologica, 129: 147-150.
Dorgan, K.M., Jumars, P.A., Johnson, B., Boudreau, B.P. & Landis, E. 2005. Burrowing mechanics: Burrow extension by crack propagation. Nature, 433: 475. # *Nereies virens*, experiments, recent
Donovan, S.K. & Lewis, D.N. 2004. Palaeoecology in the museum gift shop. Proceedings of the Geologists’ Association, 115: 367-370.

Donovan, S.K., Lewis, D.N. & Kabrna, P. 2006. A dense epizoobiontic infestation of a Lower Carboniferous crinoid (*Amphoracrinus gilbertsoni* [Phillips]) by *Oichnus paraboloides* Bromley. Ichnos, 13: 43-45.

Donovan, S.K. & Pickerill, R.K. 2004. Traces of cassid snails predation upon the echinoids from the Middle Miocene of Poland: comments on Ceranka and Złotnik (2003). Acta Palaeontologica Polonica, 49: 483-484.

Donovan, S.K., Pickerill, R.K., Portell, R.W., Jackson, T.A. & Harper, D.A.T. 2003. The Miocene palaeobathymetry and palaeoenvironments of Carriacou, The Grenadines, Lesser Antilles. Lethaia, 36: 255-272.

Donovan, S.K., Renema, W. & Pickerill, R.K. 2005. The ichnofossil *Scolicia prisca* de Quatrefages from the Paleogene of eastern Jamaica and fossil echinoids of the Richmond Formation. Caribbean Journal of Science, 41: 876-881.

Dornbos, S.Q., Bottjer, D.J. & Chen, Y.J. 2004. Evidence for seafloor microbial mats and associated metazoan lifestyles in Lower Cambrian phosphorites of southwest China. Lethaia, 37: 127-137. # *Radulichnus, Thalassinoides*

Doyle, P., Wood, J.L. & George, G.T. 2000. The shorebird ichnofacies: an example from the Miocene of southern Spain. Geological Magazine, 137(5): 517-536. # *Antarctichnus fuenzalidae*, *Iranipeda millumi* isp. n., *Roepichnus grahami* igen. n., isp. n.

Droser, M.L., Gehling, J.G. & Jensen, S.R. 2006. Assemblage palaeoecology of the Ediacara biota: The unabridged edition? Palaeogeography, Palaeoclimatology, Palaeoecology, 232: 131-147. # Precambrian

Droser, M.L., Jensen, S. & Gehling, J.G. 2004. Development of early Palaeozoic ichnofabrics: evidence from shallow marine siliciclastics. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 383-397. # *Trichophycus, Cruziana, Phycodes wabanensis, Rusophycus latus, Skolithos, Diplocraterion, Rhizocorallium*, Newfoundland, Canada, Cambrian, Vendian, Precambrian

Drysdale, R.N., Carthew, K.D. & Taylor, M.P. 2003. Larval caddis-fly nets and retreats: a unique biosedimentary paleocurrent indicator for fossil tufa deposits. Sedimentary Geology, 161: 207-215. # non-marine

Duarte, L.V., Wright, V.P., Fernándes-López, S., Elmi, S., Krautter, M., Azerêdo, A., Henriques, M.H., Rodrigues, R. & Perilli, N. 2004. Early Jurassic carbonate evolution in the Lusitanian Basin (Portugal): facies, sequence stratigraphy and cyclicity. *In*: Duarte, L.V. & Henriques, M.H. (eds.), Carboniferous and Jurassic Carbonate Platforms of Iberia. 23rd IAS Meeting of Sedimentology – Coimbra 2004, Sedimentology and Society, Field Trip Guidebook, 1:55-71. # *Thalassinoides*, *Rhizocorallium*, *Chondrites*

Durand, F.R., Llech, R.R. & Franco Tortello, M. 1993. Presencia de *Squamodictyon* (traza fósil) en el basamento Precámbrico-Cámbrico del NW de la Provincia de Tucumán, Argentina. Primera Reunion Argentina de Icnologia, Santa Rosa, La Pampa, Argentina, 29 de Junio al. 6 de Julio de 1993, Resumen y Conferencias Invitadas, p. 12. # Precambrian, Cambrian

Dyke, G.J. & Callaghan, E. 2005. “Tracks & signs of the birds of Britain & Europe”. Ichnos, 12: 89. # Brown, R., Ferguson, J., Lawrence, M., Lees, D., book review

Dzik, J. 2005. Behavioral and anatomical unity of the earliest burrowing animals and the cause of the “Cambrian explosion”. Paleobiology, 31(3): 503-521. # *Psammichnites gigas, Didymaulichnus miettensis, Taphrhelminthoida daylyi, Plagiomus arcuatus, Phycodes pedum, Treptichnus pedum, Treptichnus tripleurum, Treptichnus triplex, Treptichnus rectangulare, Treptichnus bifurcus, Teichichnus, Diplocraterion parallelum, Rhizocorallium, Spiroscolex spiralis, Gyrolithes polonicus,* priapulids, ichnotaxonomy, evolution, Precambrian, Poland, Russia, Siberia, Ukraine

Ebbestad, J.O.R. & Tapanila, L. 2005. Non-predatory borings in *Phanerotrema* (Gastropoda), Early Silurian, Anticosti Island, Québec, Canada. Palaeogeography, Palaeoclimatology,

Palaeoecology, 221: 325-341. # *Trypanites, Pentamerus palaformis, Salpingostoma, Liospira, Stricklandia gwelani, Brachytomaria, Ulrichospina, Oichnus,* octopus, borings

Ekdale, A.A. 2004. Ichnological sonification: sound ideas for interpreting trace fossils and fossil behavior. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 32. # *Thalassinoides*

Ekdale, A.A. & Bromley, R.G. 2003. Paleoethologic interpretation of complex *Thalassinoides* in shallow-marine limestones, Lower Ordovician, southern Sweden. Palaeogeography, Palaeoclimatology, Palaeoecology, 192: 221-227.

El Hassani, A. & Willefert, S. 1990. La zone cambrienne à *Oldhamia* des Sehoul (Maroc septentrional). Géologie Méditerranéenne, 17: 229-241. # *Oldhamia kernnesraniensis* isp. n., *Oldhamia flabellata,* Cambrian, Morocco

Ellenberger, P., Mossman, D.J., Mossman, A.D. & Lockley, M.G. 2005. Bushmen cave paintings of ornithopod dinosaurs: Paleolithic trackers interpret Early Jurassic footprints. Ichnos, 12(3): 223-226. # *Protoceratops, Anomoepus, Moyenosauripus, Khwai-hemm, Kholumolumo*, dinosaurs, history, Lesotho

Engelhardt, G. 2002. *Syringomorpha nilssoni* (Torell): Ein problematisches Spurenfossil aus dem Unterkambrium Skandinaviens. Der Gescheibesammler, 35(2): 43-54. Wankendorf. # *Monocraterion tentaculatum, Cordaites nilssoni*, Cambrian, Sweden, Germany

Erdoğan, B., Uchman, A., Güngör, T & Özgül, N. 2004. Lithostratigraphy of the Lower Cambrian metaclastics and their age based on trace fossils in the Sandıklı region, south-western Turkey. Geobios, 37: 346-360. # *Cruziana fasciculata, Cruziana salomonis, Diplichnites, Minomorphichnus, Petalichnus, Rusophycus avalonensis, Rusophycus latus, Arenicolites, Altichnus foyeyni, Planolites, Skolithos, Treptichnus*, stratigraphy, Precambrian, Cambrian

Erickson, B.R. 2005. Crocodile and arthropod tracks from the Late Paleocene Wannagan Creek Fauna of North Dakota, USA. Ichnos, 12(4): 303-308. # *Borealosuchus hanksi* igen. n., isp. n*., Kouphichnium pentapodus* isp. n*.,* vertabrates

Ershova, V.B. Fedorov, P.V. 2004. Vertical trace fossils from the Leetse Formation (Lower Ordovician) of St Petersburg Region. In: Mikuláš, R. (ed.), 2004, 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 13. # *Amphorichnus paillatus, Gastrochaenolites oelandicus, Dolopichnus*, borings, burrows, Russia

Farinati, E.A. 2004. Bioerosion structures on skeletal substrates in the Atlantic Neogene, Rio Negro Province, Argentina. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 32. # *Anadara, Scapharca, Dosinia, Chionopsis, Mactra, Pitar, Dinocardium, Panopea, Ostrea patagonica, Arachnostega, Gastrochaenolites, Entobia, Maeandropolydora*

Farinati, E.A., Aliotta, S. & Spagnuolo, J. 2004. Borings and etchings of Holocene micromolluscs in the Bahia Blanca estuary, Argentina. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 33. # *Oichnux simplex, Oichnus paraboloides, Leptichnus dromeus*

Fedonkin, M.A. & Runnegar, B.N. 1992. Proterozoic metazoan trace fossils. *In* Schopf, J.W. & Klein, C. (eds.) The Proterozoic Biosphere, Cambridge University Press, Cambridge, p. 389-395. # *Cylindrichnus, Gordia, Helminthoida, Nenoxites curvus, Neonereites biserialis, Neonereites renarius, Helminthoida, Paleopascichnus delicatus, Sellaulichnus meishucunensis, Skolithos declinatus, Yelovichnus gracilis, Cylindrichnus, Margaritichnus, Intrites punctatus, Vimenites, Bellanteliformis, Planolites, Torrowangea, Harlaniella, Cochlichnus, Monocraterion, Monomorphichnus, Cochlichnus, Curvolithus, Didymaulichnus, Arenicolites, Bergaueria, Conichnus, Phycodes pedum, Teichichnus, Treptichnus, Astropolichnus, Cruziana, Diplichnites,*

Diplocraterion, Dimorphichnus, Helminthopsis, Plagiomus, Rusophycus, Taphrhelminthoida, Taphrhelminthopsis, Vendian, Cambrian, Ediacara, Australia, Namibia, Russia

Fedonkin, M.A. 1994. Vendian body fossils and trace fossils. In: Bengtson, S. (ed.), Early Life on Earth. Nobel Symposium 84. Columbia University Press, New York, pp. 370-388. # *Bergaueria, Astropolithon, Alpertia, Dolopichnus, Medvezhichnus, Palaeopascichnus, Nenoxites, Yelovichnus gracilis, Helminthoida, Circulichnis, Nereites biserialis, Bilinichnus simplex, Skolithos declinatus, Planolites serpens,* Precambrian, Russia

Fedonkin, M.A. 2003. Origin of Metazoa in the light of Proterozoic fossil records. Paleontological Research, 7(1): 9-41. # *Yorgia waggoneri*, general, Vendian, Russia

Fejfar, O. & Kaiser, T.M. 2004. Biogenous bone modification from the Oligocene of the Doupov Mts.-South Dvérce, Dětaň, Valeč (Bohemia). In: Mikuláš, R. (ed.) 2004. 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 14-15. # bones, mammals, insects, wasps, termites, Czech Republic

Fernandes, A. C. S. & Carvalho, I. S. 1997. Icnofósseis de invertebrados da bacia de Sousa (estado da Paraíba, Brasil): a localidade de Serrote do Letreiro. II Simpósio sobre a bacia do Araripe e bacias interiores do Nordeste, Crato, Ceará, Brazil, Resumo das Comunicaçioes, p. 147-155. # *Taenidium*, ?*Lophoctenium,* ?Cretaceous, Brazil

Fernandes, A. C. S. 1999. Conteúdo icnológico das formações do Ordoviciano-Devoniano da Bacia do Paraná, Brasil. Acta Geologica Leopoldensi, 21(46/47): 191-200. # *Arthrophycus alleghanensis, Arenicolites, Chondrites, Circulichnis, Conostichus, Cruziana breadstoni, Notopus petri, Cylindrichnus concentricus, Didymaulichnus lyelli, Didymaulichnus furnai, Fraena furnai, Aulichnites, Monocraterion, Isopodichnus, Furnasichnus langei, Lockeia, Monocraterion, Rusophycus, Palaeosabella, Zoophycos, Skolithos linearis, Skolithos ayalis, Bifungites cruciformis, Bifungites paranensis, Astropolichnus, Planolites, Palaeophycus alternatus, Palaeophycus tubularis,* Ordovician, Devonian, Brazil

Fernandes, A.C.S. 1999. Conteúdo icnológico das formações do Ordoviciano-Devoniano da Bacia do Paraná, Brasil. Boletim do Museu Nacional, nova série, Geologia, 46: 1-12. # *Arthrophycus alleghanensis, Arenicolites, Chondrites, Circulichnis, Conostichus, Cruziana breadstoni, Notopus petri, Cylindrichnus concentricus, Didymaulichnus lyelli, Didymaulichnus furnai, Fraena furnai, Aulichnites, Monocraterion, Isopodichnus, Furnasichnus langei, Lockeia, Monocraterion, Rusophycus, Palaeosabella, Zoophycos, Skolithos linearis, Skolithos ayalis, Bifungites cruciformis, Bifungites paranensis, Astropolichnus, Planolites, Palaeophycus alternatus, Palaeophycus tubularis,* Ordovician, Devonian, Brazil

Fernandes, A.C.S. & Carvalho, I.S., de 2004. The ichnofossils from Bauru Group (Bauru Basin, Cretaceous), Brazil. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 33. # *Arenicolites, Macanopsis, Planolites, Taenidium*

Fernandes, A.C.S. & Fonseca, V.M.M.d. 2001. Catalogo de fosseis-tipo e figurados da colecao de paleoinvertebrados do Museu Nacional, Rio de Janeiro. Publicações Avulsas do Museu Nacional, 86: 1-60. # *Bifungites cruciformis, Bifungites paranaensis, Asteriacites, Diplichites, Gyrolithes,* coprolites, collections, Cambrian, Devonian, Carboniferous, Permian, Tertiary, Brazil

Fernandes, A.C.S. 2001. A paleoicnofauna brasileira de artropodes; estado atual de seu conhecimento. Acta Geologica Leopoldensia, 24(52-53): 359-372. # *Gyrolithes, Rusophycus pudicus, Rusophycus piauensis, Homalonotus, Paramphibius, Kouphichnium minusculum, Craticulichnium iruiensis, Merostomichnites piauiensis, Isopodichnus, Diplichnites, Protichnites, Taichichnus, Arenicolites, Thalassinoides, Coprinisphaera, Skolithos, Macanopsis, Ophiomorpha, Cruziana breadstoni, Diplocraterion, Arthrophycus alleghanensis, Arthrophycus linearis, Arthrophycus unilateralis, Bifungites cruciformis, Corophioides*, general, Brazil

Fernandes, A.C.S., Borghi, L. & Carvalho, I.S. 1992. Icnofósseis de Artropodes na Formação Resende (Bacia de Resende, RJ). Anais da Academia Brasileirade Ciências, 64(3): 269-275. # *Skolithos*, insects, spiders, non-marine, fluvial, lacustrine, Miocene, Pliocene, Brazil

Fernandes, M., Fernandes, L. & Souto, P. 2004. Occurrence of urolites related to dinosaurs in the Botucatu Formation, Lower Cretaceous, Paraná Basin, Brazil. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 34. # *Struthio camelus*

Fernandes, M.A., Fernandes, L.B.R. & Souto, P.R.F. 2004. Occurrence of urolites related to dinosaurs in the Lower Cretaceous of the Botucatu Formation, Paraná Basin, São Paulo State, Brazil. Revista Brasileira de Paleontologia, 7(2): 263-268.

Fichter, J. & Kunz, R. 2004. New genus and species of chirotheroid tracks in the Detfurth-Formation (Middle Bunter, Lower Triassic) of Central Germany. Ichnos, 11(3-4): 183–193. # *Protochirotherium* igen. n., *Protochirotherium wolfhagense* isp. n.

Finlayson, G.R., Shimmin, G.A., Temple-Smith, P.D., Handasyde, K.A. & Taggart, D.A. 2005. Burrow use and ranging behaviour of the southern hairy-nosed wombat (*Lasiorhinus latifrons*) in the Murraylands, South Australia. Journal of Zoology, London, 265: 189-200. # marsupial, mammal, wombat, *Lasiorhinus latifrons*, home range, burrow, recent

Fodor, R. 2004. Paleoichnological examinations on the tests of Middle Eocene (Lutetian) corals (Tokod-Ebszõnybánya Fork, Hungary). In: Mikuláš, R. (ed.) 2004. 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 16. # *Gastrochaenolites lapidicus, Gastrochaenolites dijugus, Gastrochaenolites turbinatus, Caulostrepsis taeniola, Caulostrepsis cretacea, Maeandropolydora sulcans, Maeandropolydora elegans, Trypanites solitarius, Trypanites wesei, Terebripora*

Fodor, R., 2005. Corals as hard substrates – an example from the Late-Oligocene of Hungary. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 34. University of Auckland, Auckland. # *Caulostrepsis, Entobia, Maeandropolydora, Terebripora, Trypanites*

Furrer, H., Gubler, T., Hochuli, P.A. & Stössel, I. 2002. Goldau vor 25 Millionen Jahren. Schweizer Strahler, 2002(3): 1-8. # footprints, tracks, birds, mammals, Oliocene, Miocene, Switzerland

Fürsich, F.T., Singh, I.B., Joachimski, M., Krumm, S., Schlirf, M. & Schlirf, S. 2005. Palaeoclimate reconstructions of the Middle Jurassic of Kachchh (western India): an integrated approach based on palaeoecological, oxygen isotopic, and clay mineralogical data. Palaeogeography, Palaeoclimatology, Palaeoecology, 217: 289-309. # corals, sponges, bivalves, *Eligmus*, Opinaes

Gahn, F.J. 2006. "The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis" edited by D. McIlroy. Palaeontologia Electronica, 9(1): 4 pages. [web journal]. # book review

Gaigalas, A. & Uchman, A. 2004. Trace fossils form the Upper Pleistocene varved clays S of Kaunas, Lithuania. Geologija, 45: 16-26. Vilnius. # *Glaciichnium liebegastensis, Warvichnium ulbrichi, Gordia, Helminthoidichnites, Mermia* ichnofacies

Gaillard, C. & Olivero, D., 2005. Ichnofabric at the marine/non marine transition in Upper Eocene deposits of southeastern France. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 35. University of Auckland, Auckland. # *Psilonichnus, Thalassinoides*

Gaillard, C. & Racheboeuf, P.R. 2004. Zonation of Lower Devonian trace fossils in Bolivia. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 34-35. # *Aulichnites, Catenichnus, Chondrites, Diplichnites, Diplocraterion,*

Gordia, Isopodichnus, Lockeia, Monocraterion, Nereites, Paleohelcura, Palaeophycus, Phycosiphon, Planolites, Protovirgularia, Rusophycus, Skolithos, Torrowangea, Zoophycos, Helminthopsis

Gaillard, C. 1992. Bathymétrie et traces fossiles. Paleovox , Lyon, A.P.F.édit., n° 1, p. 15-30.

Gaillard, C., Berner, P., Barale, G., Bourseau, J.-P., Buffetaut, E., Ezquerra, R., Gall, J.-C., Lapparent de Broin, F., Renous, S. & Wenz, S. 2003. A giant Upper Jurassic turtle revealed by its tracks. Lethaia, 36: 315-322. # *Tabularina lithographica, Sartosauropus latus,* footprints, reptiles, Jurassic, France

Gallego, O., Gnaedinger, S., Labandeira, C., Martins Neto, R. & Kirsten, O. 2004. Permian and Triassic insect traces on fossil leaves from Uruguay and Chile. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 35. # *Glossopteris wilsoni, Glossopteris* sp., *Taeniopteris,* Glossopteridales, Bennettitales, Narkeminoidea, Chrysomelidae, Curculionidae

Gand, G., Garric, J. & Lapeyrie, J. 1997. Biocénoses à triopsidés (Crustacea, Branchiopoda) du Permien du bassin de Lodève (France) (Triopsids from the Permian of the Lodève Basin, France). Géobios, 30(5): 673-700. # *Isopodichnus*, France

Gand, G., Kerp, H., Parsons, C. & Martínez García, E. 1997. Palaeoenvironmental and stratigraphic aspects of animal traces and plant remains in Spanish Permian red beds (Peña Sagra, Cantabrian Mountains, Spain). Geobios, 30(2): 295-318. # *Hyloidichnus major, Limnopus, Salichnium, Isopodichnus minutus, Steinichnus, Scoyenia gracilis, Ancorichnus, Skolithos,* tetrapod footprints, Permian, Spain

Gandini, R., Paz, C.P., Netto, R.G. & Vargas, M. 2004. First record of the *Scoyenia* ichnofacies in the Ladinian-Eonorian (Triassic) sedimentary sequence from Paraná Basin in the south of Brazil. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 36. # *Scoyenia gracilis, Diplichnites gouldi, Permichnium* isp., *Skolithos* isp., *Arenicolites* isp.

Gangloff, R.A., May, K.C. & Storer, J.E. 2004. An early Late Cretaceous dinosaur tracksite in central Yukon Territory, Canada. Ichnos, 11(3-4): 299–309. # *Ornithomimipus, Amblydactylus kortmeyeri, Amblydactylus gethingi, Gyspichnites, Tetrapodosaurus borealis, Irenasauripus acutus, Amblydactylus, Columbosauripus ungulatus*

Ganguly, S., Samanta, A., Chakrabarti, A. & Roy, A. 2004. Characterization of ghost crab burrows of different age groups with 2D Gabor filter using maximum entropy evidence. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 36-37. # *Ocypode* sp.

Gee, C.T., Sander, P.M. & Petzelberger, B.E.M. 2003. A Miocene rodent nut cache in a coastal dune of the Lower Rhine Embayment, Germany. Palaeontology, 46(6): 1133-1149. # mammals, burrows

Gehling, J.G., Jensen, S. Droser, M.L., Myrow, P.M. & Narbonne, G.M. 2001. Burrowing below the basal Cambrian GSSP, Fortune Head, Newfoundland. Geological Magazine, 138: 213-218. # *Harlaniella podolica, Phycodes pedum, Trichophycus pedum, Treptichnus pedum, Palaeopascichnus delicata, Planolites montanus, Skolithos annulatus, Helminthoidichnites tenuis, Monomophichnus, Conichnus conicus, Gyrolithes polonicus, Arenicolites, Cochlichnus, Didymaulichnus*, Precambrian, Canada

Genise, J.F. 1999. Fossil bee cells from the Asencio Formation (Late Cretaceous - Early Tertiary) of Uruguay, South America. Proceeedings of the First Palaeoentomological Conference, Moscow 1998. AMBA Projects International, Bratislava, p. 27-32. # *Ellipsoideichnus meyeri, Palmiraichnus castellanosi, Uruguay auroranormae, Uruguay rivasi,*

Uruguay, *Celliforma* ispp., paleosols, calichnia, Insecta Hymenoptera, Upper Cretaceous, Lower Tertiary, Uruguay

Genise, J.F. 2004. Fungus trace in wood: a rare bioerosional item. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 37. # *Asthenopodichnium xylobiontum,* Upper Cretaceous, Eocene-Oligocene, Miocene, Argentina, Egypt

Genise, J.F. 2004. Ichnotaxonomy and ichnostratigraphy of chambered trace fossils in palaeosols attributed to coleopterans, ants and termites. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 419-455. # Coprinisphaeridae ifam. n., *Fontanai, Fontanaichnus, Coprinisphaera equadoriensis, Martinezichnus, Madinaichnus, Devincenzichnus, Microicoichnus, Eatonichnus utahensis, Monesichnus ameghinoi, Teisseirei barattinia, Isociesichnus, Teissereichnus, Rebuffoichnus casamiquelai,* Pallichnidae ifam. n*., Scaphichnium hamatum, Fictovichnus gobiensis, Pallichnus dakotensis*, Krausichnidae ifam. n., *Attaichnus kuenzelii, Parowanichnus formicoides, Krausichnus trompitus, Archeoentomichnus metapolypholeus, Tacuruichnius farinai, Vondrichnus obovatus, Fleaglellius pagodus, Termitichnus quatranii, Syntermesichnus fontanae*

Genise, J.F. & Bellosi, E.S. 2004. Continental trace fossils of the Laguna Palacios Formation (Upper Cretaceous) from the San Bernardo Range (Chubut Province). In: Bellosi, E.S. & Melchor, R.N. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Fieldtrip Guidebook, p. 33-43. # *Beaconites, Taenidium, Skolithos, Cellicalichnus chubutensis, Rebuffoichnus casamiquelai, Fictovichnus gobiensis, Cellicalichnus dakotensis, Beaconites coronus, Taenidium barretti, Skolithos linearis, Coprinisphaera,* Argentina

Genise, J.F., Bellosi, E.S. & Gonzalez, M.G. 2004. An approach to the description and interpretation of ichnofabrics in palaeosols. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 355-383. # *Skolithos linearis, Taenidium, Cellicalichnus chubutensis, Rebuffoichnus casamiquelai, Beaconites coronus, Palmiraichnus castellanosi, Teisseirei, Fleaglellius pagodus, Coprinisphaera, Monesichnus, Uruguay auroranormae*, *Beaconites coronus, Celliforma, Macanopsis, Cylindricum, Scaphichnium hamatum, Edaphichnium lumbricatum,* rhizoliths, earthworm, coleoptera, termites, insects, Triassic, Cretaceous, Palaeogene, Eocene, Oligocene, Miocene, Argentina, Egypt

Genise, J.F., Bellosi, E.S., Melchor, R.N. & Cosarinsky, M.I. 2005. Comment – Advanced Early Jurassic termite (Insecta: Isoptera) nests: Evidence from the Clarens Formation in the Tuli Basin, Southern Africa (Bordy et al., 2004). Palaios, 20(3): 303-305.

Genise, J., Bertling, M., Braddy, S.J., Bromley, R.G., Mikuláš, R., Nielsen, K.S.S., Rindsberg, A.K., Schlirf, M. & Uchman, A. 2004. Comments on the draft proposal to amend the Code with respect to trace fossils. *Bulletin of Zoological Nomenclature*, 61(1): 35-39. # taxonomy, nomenclature, general

Genise, J.F. & Cladera, G. 2004. *Chubutolithes gaimanensis* and other ichnofossils: breaking through the taphonomic barrier. Journal of Kansas Entomological Society, 77(4): 626-638.

Genise, J.F., Laza, J.H. & Rindsberg, A.K. 2005. The ichnogenus *Coprinisphaera* Sauer 1955: proposed conservation. Bulletin of Zoological Nomenclature, 62(4): Case 3360.

Genise, J.F., Mángano, M. G. & Buatois, L.A. 2004. Ichnology moving out of the water: a model for terrestrial ichnofacies. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 38. # *Coprinisphaera, Celliforma, Cellicalichnus, Rosellichnus, Teisseirei, Pallichnus, Termitichnus, Vondrichnus, Krausichnus,* Cenozoic, Argentina, Brazil

Genise, J.F., Valais, S. de, Apesteguía, S. & Novas, F.E. 2004. A trace fossil association in bones from the Late Cretaceous of Patagonia, Argentina. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 37-38. # *Asthenopodichnium ossibiontum, Mandaodonites coxi*

Gerino, M., Stora, G. & Weber, O. 1999. Evidence of bioturbation in the Cap-Ferret Canyon in the deep northeastern Atlantic. Deep-Sea Research, Part II, 46: 2289-2307. # biogenic structures, recent

Gerino, M., Stora, G., Poydenot, F. & Bourcier, M. 1994. Benthic fauna and bioturbation on the Mediterranean continental slope: Toulon Canyon. Continental Shelf Research, 15(11/12): 1483-1496. # *Planolites, Calocaris macandreae*, macrobenthos, megabenthos, macrofauna, recent, France

Germs, G.J.B. 1995. The Neoproterozoic of southwestern Africa, with emphasis on platform stratigraphy and paleontology. Precambrian Research, 73(1-4): 137-151. # *Phycodes pedum, Skolithos, Bergaueria, Brooksella, Bucholzbrunnichnus kroneri, Intriotes, Chondrites, Nereites, Diplocraterion, Curvolithus, Didymaulichnus, Enigmatichnus africani, Diplichnites, Neonereites biserialis, Neonereotes uniserialis,* Precambrian, Damara System, Africa

Getty, P.R. 2005. Excavated and *in situ* dinosaur footprints from the Murray Quarry (Early Jurassic East Berlin Formation), Holyoke, Massachusetts, USA. Ichnos, 12(3): 163-178. # *Eubrontes giganteus, Anchisauripus, Grallator, Skolithos, Agrestipus, Gregaripus*

Giannetti, A. & Monaco, P. 2004. Burrow decreassing-upward parasequence (BDUP): a case study from the Lower Jurassic of the Trento cabonate platform (Southern Alps), Italy. Revista Italina di Paleontologia e Stratigrafia, 110(10: 77-85. # *Thalassinoides suevicus*, ichnofabric, bioturbation, sequence stratigraphy

Gibert, J.M. de. 2003. Criterios icnológicos para reconocer comportamientos homólogos y homoplásicos en el registro fósil. Asociación Paleontológica Argentina, Publicación Especial, 9: 9-15. # general, Lazarus taxa, *Nereites* [*Helminthorhaphe*], *Dictyodora, Gyrochorte*, Ordovician, Carboniferous, Jurassic, Miocene, Spain, Utah, USA

Gibert, J.M. de & Robles, J.M. 2005. Firmground ichnofacies recording high-frequency marine flooding events (Langhian transgression, Vallès-Penedès Basin, Spain). Geologica Acta, 3(3): 295-305. # *Spongeliomorpha sudolica, Spongeliomorpha iberica, Ophiomorpha nodosa, Thalassinoides, Glossifungites* ichnofacies, Miocene

Gibert, J.M. de, Buatois, L.A. & Mángano, M.G. 2004. Trace fossils exhibiting stratigraphic gaps: Lazarus ichnotaxa. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 30. # *Curvolithus, Dactyloidites ottoi, Gyrochorte, Gyrolithes, Psammichnites*

Gibert, J.M. de, Domènech, R. & Martinell, J. 2004. Fixichnia, a new ethologic class for animal bioerosion trace fossils. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 18-19. # etching scars*, Podichnus, centrichnus eccentricus Renichnus, Leptichnus peristoma, Stellichnus*

Gibert, J.M. de, Netto, R.G., Tognoli, F.M.W. & Grangeiro, M.E. 2004. “Baby *Ophiomorpha*” and other interesting features associated to *O. nodosa* from the Pleistocene of Chuí, Brazil. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 30. # *Rosselia socialis, Diplocraterion parallelum, Macaronichnus* isp., *Ophiomorpha nodosa, Cylindrichnus*

Gibert, J.M. de, Netto, R.G., Tognoli, F.M.W. & Grangeiro, M.E. 2006. Commensal worm traces and possible juvenile thalassinidean burrows associated with *Ophiomorpha nodosa,* Pleistocene, southern Brazil. Palaeogeography, Palaeoclimatology, Palaeoecology, 230: 70-

84. # *Ophiomorpha puerlis* isp. n.*, Cylindrichnus helix* isp. n.*, Krausichnus, Vondrichnus, Celliforma, Taenidium, Callichirus, Callianassa, Glypturus, Upogebia affinis, Thalassinoides, Maiakarichnus currani, Amphitrite ornata, Notomastus latericeus*

Gierliński, G. 2004. Dinosaur tracks in the Jurassic of Poland. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 38-39. # cf. *Stenonyx, Grallator, Anchisauripus, Eubrontes, Kayentapus, Megalosauripus, Characichnos tridactylus, Parabrontopodus, Anomoepus, Moyenisauropus,* cf. *Atreipus, Moyenisauropus natator, Otozoum, Anomoepus curvatus, Anomoepus pienkovskii, Moyenisauropus karaszewskii,* cf. *Wintonopus,* cf. *Atreipus,* cf. *Carmelopodus, Plesiornis, Wildeichnus, Jialingpus, Stegopodus, Dinehichnus, Brontopodus, Megalosauripus*

Gierliński, G., Pieńkowski, G. & Niedźwiecki, G. 2004. Tetrapod track assemblage in the Hettangian of Sołtyków, Poland, and its paleoenvironmental background. Ichnos, 11(3-4): 195–213. # *Ameghinichnus, Delatorrichnus, Anomoepus, Grallator, Stenonyx, Kayentapus soltykovensis, Kayentapus minor, Anomoepus, Parabrontopodus, Anchisauripus, Eubrontes, Scoyenia, Spongeliomorpha, Lockeia czarnockii*, reptiles, mammals, plant roots, Jurassic

Gilíkova, H., Mikuláš, R. & Vavrdova, M. 2004. Bazálni klastika ve vrtach na jižní Moravě: stáří a paleogeografie. In: Zlinská, A. (ed.), 5. Paleontologická Konferencia, Zborník Abstraktov. Štátny geologický ústav Dionýa Štúra, Bratislava, p. 37-38. Bratislava. # *Planolites*, *Diplocraterion, Palaeophycus, Skolithos, Cambrian*, Czech Republic

Gingras, M. K., Räsänen, M., Pemberton, S. G. & Romero, L. P. 2002. Ichnology and sedimentology reveal depositional characteristics of bay-margin parasequences in the Miocene Amazonian foreland basin. Journal of Sedimentary Research, 72(6): 871-883. # *Arenicolites, Asterosoma, Chondrites, Cylindrichnus, Diplocraterion, Lockeia, Palaeophycus, Rhizocorallium, Phycosiphon, Psilonichnus, Skolithos, Gyrolithes, Teichichnus, Zoophycos, Trichichnus, Planolites, Scolicia, Laminites, Thalassinoides, Ophiomoropha,* Brazil

Gingras, M.K., MacEachern, J.A. & Pickerill, R.K. 2004. Modern perspectives on the *Teredolites* ichnofacies: observations from Willapa Bay, Washington. Palaios, 19: 79-88. # *Caulostrepsis, Gastrochaenolites, Entobia, Maeandropolydora, Psilonichnus, Rogerella, Teredolites, Thalassinoides, Trypanites, Upogebia pugettensis, Corophium volutator, Nereis virens, Notomastus senuis, Petricola pholadiformis, Arenicoites, Planolites, Palaeophycus, Gyrolithes, Rosselia, Diplocraterion,* lebesspuren, recent, USA

Gingras, M.K., Mendoza, C.A. & Pemberton, S.G. 2004. Fossilized worm burrows influence the resource quality of porous media. American Association of Paleontologists and Geologists, Bulletin, 88(7): 875-883. # hydrocarbon production, Ordovician, Williston basin, porosity, methods, Canada

Gingras, M.K., O'Hare, R., Mendoza, C., Rostrun, B., Pemberton, S.G., Khan, D. & Smerdon, B., 2005. Modelling capillary fabrics from ichnofabrics to assess resource character and quality. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 36. University of Auckland, Auckland. # heterogeneity, porosity, cryptic bioturbation, hydrocarbon

Gingras, M.K., Pemberton, S.G., Muelenbachs, K. & Machel, H. 2004. Conceptual models for burrows-related, selective dolomitization with textural and isotopic evidence from the Tyndall Stone, Canada. Geobiology, 2: 21-30. # *Chondrites, Palaeophycus, Planolites, Ophiomorpha nodosa,* geochemistry, isotopes, ichnofabric, Ordovician

Gingras, M.K., and K Bann, The Bend Justifies the Leans: Interpreting Recumbent Ichnofabrics. Journal of Sedimentary Research (2006) 9p.

Glaub, I. 2004. Recent and sub-recent microborings from the upwelling area off Mauritania (West Africa) and their implications for palaeoecology. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 63-77. # *Caverna pediculata, Saccomorpha clava, Fasciculus*

ascinosus, Fasciculus dactylus, Polyactina araneola, Orthogonum fusipferum, Orthogonum lineare, O. spinsoum, O. tabulare, Scolecia filosa, Scolecia serrata, Globodendrina monile, Reticulina elegans

Glaub, I., Gektidis, M. & Vogel, K. 2002. Microborings from different North Atlantic shelf areas: Variability of the euphotic zone extension and implications for paleodepth reconstructions. Courier Forschungsinstitut Senckenberg, 237: 25-37.

Glaub, I. & Vogel, K. 2004. The stratigraphic record of microborings. Fossils and Strata, 51: 126-135. # general, *Eohyella campbelli, Graviglomus incrustus, Perenchymodiscus endolithicus, Cunicularis halleri, Eohyella elongata, Eohyellarectoclada, Eohyella lata, Fasciculus frutex, Cunicularis idodiametrus, Endoconchia angusta, Fasciculus dactylus, Orthogonum fusiferum, Orthogonum tripartitum, Reticulina elegans, Saccomorpha clava, Scolecia filosa, Fasciculus rogus, Palaeoconchocelis starmachii, Planobola macrogota, Polyactina araneola, Hyellomorpha microdendrica, Globodendrina monile, Orthogonum lineare, Orthogonum spinosum, Eurygonum nodosum, Fasciculus acinosus, Cavernula pediculata, Cavernula zancobola, Planobola cebolla, Planobola microgota, Planobola radicatus, Rhopalia catenata, Saccomorpha terminalis, Scolecia maeandria, Cavernula coccid, Orthogonum appendiculatum, Orthogonum giganteum, Orthogonum tubulare, Dendrina anomala, Dendrina belemniticola, Dendrina brachiopodicola, Dendrina constans, Dendrina fluensis, Dendrina lacerata, Dendrina orbiculata, Fasciculus grandis, Fasciculus parvus, Polyactina fastigata, Saccomorpha sphaerula, Scolecia botulifera, Scolecia serrata,* evolution

Glaub, I., Vogel, K. & Gektidis, M. 2001. The role of modern and fossil cyanobacterial borings in bioerosion and bathymetry. Ichnos, 8: 185-195.

Gobetz, K.E. 2005. Claw impressions in the walls of modern mole (*Scalopus aquaticus*) tunnels as a means to identify fossil burrows and interpret digging movements. Ichnos, 12(3): 227-231. # *Scalopus aquaticus*, mammals, recent, burrows, digging

Goldring, R., Cadée, G.C., D'Alessandro, A., Gibert, J.M. de, Jenkins, R. & Pollard, J.E. 2004. Climatic control on trace fossil distribution in the marine realm. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 77-93. # *Ophiomorpha nodosa, Ophiomorpha annulata, Ophiomorpha irregulaire, Echinocardium cordatum, Planolites, Pholeus, Thalassinoides, Spongeliomorpha, Callichnurus major, Calianassa subterranea, Psilonichnus tubiformis, Psilonichnus upsila, Psilonichnus lutimuratus, Bichordites, Cylindrichnus, Gyrolithes, Tasselia, Arctica islandica, Pseudamussium septemradiatum, Ctenocheles, Cardioichnus, Scolicia, Lanice, Brissopsis lyrifera, Zoophycos,* Upogebiidae, Oligocene, Miocene, Spain, North Sea, Eocene, England, New Zealand, Austria, Poland, Denmark, Argentina, Brazil, Jamaica, Tunisia, Australia, Pleistocene, Holocene, Washington, USA, Mediterranean, Pliocene, Korea, Arctic

Goldring, R., Pollard, J.E. & Radley, J.D. 2005. Trace fossils and pseudofossils from the Wealden strata (non-marine Lower Cretaceous) of southern England. Cretaceous Research, 26: 665-685. # *Agrichnium fimbriatus, Beaconites antarcticus, Beaconites barretti, Cochlichnus anguineus, Diplichnites triassicus, Diplocraterion parallelum, Lockeia siliquaria, Lockeia serialis, Monocratrion tentaculatum, Palaeophycus striatus, Palaeophycus tubularis, Planolites montanus, Protovirgularia rugosa, Rhizocorallium, Scoyenia gracilis, Unisulcus minutus,* insects, roots, trackway, footprints, lacustrine, lagoonal, fluvial, brackish, lacustrine delta, floodplain, Scoyenia ichnofacies, Glossifungites ichnofacies, Great Britain, UK

Gong, Y.M., Weldon, E.A., Shi, G.R., Peng, Y.Q. & Yan, J.X., 2005. Early-Middle Permian *Zoophycos* ichnofabrics from the southern Sydney Basin and South China: Possible climatic effects of trace fossils. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 37-39. University of Auckland, Auckland. # *Cruziana, Skolithos, Zoophycos, Teichichnus, Thalassinoides, Rhizocorallium*

González, S., Huddart, D., Bennett, M.R. & González-Huesca, A. 2006. Human footprints in central Mexico older than 40,000 years. Quaternary Science Reviews, 25: 201-222. # *Homo sapiens,* mammals

Gradziński, M., Tyszka, J., Uchman, A. & Jach, R. 2004. Large microbial – foraminiferal oncoids from condensed Toarcian deposits: Case study from the Tatra Mountains, Poland. Palaeogeography, Palaeoclimatology, Palaeoecology, 213(1-2): 133-51. # *Chondrites,* bioturbation, Jurassic

Grangeiro, M.E. & Netto, R.G. 2003. Icnofauna de depósitos costeiros modernos do sul do Brasil. Asociación Paleontológica Argentina, Publicación Especial, 9: 109-118. # *Uca uruguaynsis, Ocypode quadrata, Chasmagnatus granulata, Callinectes sapidius,* crustaceans, polychaetes, birds, insects, *Psilonichnus* ichnofacies, beach, recent, Brazil

Grangeiro, M.E., Netto, R.G. & Cord, J. 2002. Estruturas sedimentares biogênicas em ambientes modernos. In: Dutra, T.L. (ed.), Técnicas e procedimentos para o trabalho com fósseis e formas modernas comparativas, Ed. UNISINOS, São Leopoldo, RS, p. 48-49. ISBN 85-7431-122-7.

Gregory, M., Martin, A.J. & Campbell, K. 2004. A tale of two islands: Compound trace fossil structures formed by plant and animal behaviour in the Pleistocene of northern New Zealand and Sapelo Island, Georgia (USA). Fossils and Strata, 51: 88-105. # roots, *Taenidium*, *Thalassinoides, Ophiomorpha nodosa, Callichirus major, Ocypode quadrata,* Coleaoptera, insects, nonmarine, soil, Quaternary

Gregory, M.R. & Campbell, K.A. 2005. Bartrum Bay and Northland. In: 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Field Guides, p. 1-33. University of Auckland, Auckland. # *Phycodes, Radionereites, Tigillites, Scalarituba, Planolites, Rhizocorallium, Diplocraterion, Ophiomorpha, Glossifungites* ichnofacies*, Skolithos* ichnofacies*, Macomona liliana, Amphibola crenata, Chione stuchburyi, Helice crassa, Zeacumantus lulentus, Psilonichnus, Piscichnus waitemata, Macaronichnus, Phoebichnus trochoiedes, Taenidium, Celliforma, Scolicia, Planolites, Haentzschelinia, Arenicolites, Aulichnites, Thalassinoides, Chondrites, Diplichnites,* tidal flats, estuary, ray holes, trackways, tuatara, tetrapods, vertebrates, insects, plants, soils, recent, Miocene, Holocene, Pleistocene

Gregory, M.R., Campbell, K.A., Alfaro, A.C. & Hudson, N., 2005. The bees' knees: burrows in consolidated Quaternary sands from Kowhai Bay, Northland, New Zealand. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 40-41. University of Auckland, Auckland. # Colletidae, *Skolithos, Tigillites*, insects

Gregory, M.R., Campbell, K.A., Morgan, S. & Zuraida, R. 2004. Neoichnology of New Zealand estuaries: a progress report. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 39. # *Avicennia marina, Piscichnus, Diplichnites, Arenicolites, Chondrites, Cochlichnus, Psilonichnus, Thalassinoides, Skolithos, Glossifungites*

Groenewald, G.H., Welman, J. & MacEachern, J. 2001. Vertebrate burrow complexes from Early Triassic Cynognathus Zone (Driekoppen Formation, Beaufort Group) of the Karoo Basin, South Africa. Palaios, 16: 148-160. # nonmarine, reptiles

Guidetti, P., Fraschetti, S., Terlizzi, A. & Boero, F. 2004. Effects of desertification caused by *Lithophaga lithophaga* (Mollusca) fishery on littoral fish assemblages along rocky coasts of southeastern Italy. Conservation Biology, 18(5): 1417. # borings

Gutowski, J. 2004. Dynamika rozwoju utworów koralowych środkowego oksfordu okolic Bałtowa (Middle Oxfordian coral facies of the Bałtów region, NE margin of the Holy Cross Mts., Poland). Tomy Jurajskie, 2: 17-27. # borings, *Lithophaga* [*Gastrochaenolites*], Jurassic

Gutowski, J. 2004. Oolitowy cykl sedymentacyjny wczesnego kimerydu w profilu Wierzbicy koło Radomia (Early Kimmeridgian oolitic sedimentary cycle in the Wierzbica quarry, NE margin of

the Holy Cross Mts., Poland). Tomy Jurajskie, 2: 37-48. # *Thalassinoides, Rhizocorallium, Thalassinoides*, Jurassic, wood borings, isopod *Limnoria*

Hagadorn, J.W. & Hollingsworth, J.S. 2004. The face of *Rusophycus*: Early Cambrian sub-cephalic soft-tissue impressions, California and Greenland. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 40. # *Cruziana pectinata, Rusophycus marginatus*, USA

Håkansson, E. & Thomsen, E. 1999. Benthic extinction and recovery patterns at the K/T boundary in shallow water carbonates, Denmark. Palaeogeography, Palaeoclimatology, Palaeoecology, 154: 67-85. # *Thalassinoides,* Cretaceous, Paleocene

Hall, S.J. Physical disturbance and marine benthic communities: life in unconsolidated sediments. Oceanography & Marine Biology: an Annual Review 32: 178-239. # *Owenia, Macoma,* bioturbation

Hannibal, J.T., Rindsberg, A.K., Lerner, A.J & Lucas, S.G., 2005, A complex, chambered ichnofossil from redbeds of the Lower Permian Robledo Mountains Formation of the Hueco Group, southern New México. In: Lucas, S.G. (ed.), The Nonmarine Permian, Albuquerque, New Mexico, 21-29 October: Bulletin of the New Mexico Museum of Natural History and Science.

Hansen, C.D., 2005. Facies variations in a mixed wave- and river-influenced delta lobe, Upper Cretaceous basal Belly River Formation, Ferrybank and E. Pembina Fields, central Alberta. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 42. University of Auckland, Auckland. # *Cruziana, Skolithos*

Harris, J.D. & Lacovara, K.J. 2004. Enigmatic fossil footprints from the Sundance Formation (Upper Jurassic) of Bighorn Canyon National Recreation Area, Wyoming. Ichnos, 11(1-2): 151–166. # *Kouphichnium, Crocodylopodus,* reptiles, USA

Hasiotis, S.T. 2002. Where is the fossil evidence for Gondwanan crayfish? Gondwana Newsletter Section, 5(4): 872-878. # [*Camborygma*], non-marine, Gondwana, Australia

Hasiotis, S.T. 2004. Reconnaissance of Upper Jurassic Morrison Formation ichnofossils, Rocky Mountain Region, USA: paleoenvironmental, stratigraphic, and paleoclimatic significance of terrestrial and freshwater ichnocoenoses. Sedimentary Geology, 167: 177-268. # *Ancorichnus, Camborygma litonomos, Camborygma eumekenomos, Camborygma airiklados, Celliforma, Steinichnus, Cylindricum, Scoyenia, Coprinisphaera, Paleobuprestis, Paleoscolytus, Phycodes, Lockeia, Lingulichnus, Arenicolites, Conichnus, Palaeophycus, Scolicia, Terebellina, Fuersichnus, Kouphichnium, Planolites, Cochlichnus, Pterichnus,* swimming traces, mammal burrows, rhizoliths, mayfly, escape traces, bivalves, gastropods, tooth marks, borings, stromatolites, crayfish, cocoons, ants, bees, termites, insects, reptiles, borings, wood, bones, general, lacustrine, fluvial, eolian, interdune, soils, ichnofacies, recent, Colorado, Wyoming, Montana, Utah, New Mexico

Hasiotis, S.T. 2005. “Mammal Tracks and Sign of the Northeast”. Ichnos, 12(4): 313-314. # *Virginia opossum,* book review

Hasiotis, S.T. & Honey, J.G. 2000. Paleohydrologic and stratigraphic significance of crayfish burrows in continental deposits: examples from several Paleocene Laramide basins in the Rocky Mountains. Journal of Sedimentary Research, Section A: Sedimentary Petrology and Processes, 70(1): 127-139. # 127-139. # *Camborygma symplokomos, Camborygma emekenomos, Camborygma litonomos,* Wyoming, Colorado, USA

Hasiotis, S.T., Wellner, R.W., Martin, A.J. & Demko, T.M. 2004. Vertebrate burrows from Triassic and Jurassic continental deposits of North America and Antarctica: Their paleoenvironmental and paleoecological significance. Ichnos, 11(1-2): 103-124. # *Daimonelix circumaxilis,* rhizoliths, reptiles, Arizona, USA

Haubold, H., Buta, R.D., Kopaska-Merkel, D.C. & Rindsberg, A.K., 2005, Atlas of Union Chapel Mine vertebrate trackways and swimming traces. In: Buta, R.D., Rindsberg, A.K. & Kopaska-Merkel, D.C. (eds.), Pennsylvanian Footprints in the Black Warrior Basin of Alabama: Alabama Paleontological Society Monograph, 1: 207-276. Birmingham, Alabama.

Haubold, H. & Lucas, S.G. 2001. Die Tetrapodenfährten der Choza Formation (Texas) und das Artinsk-Alter der Redbed-Ichnofaunen des Unteren Perm. Hallesches Jahrbuch der Geowissenschaften, B23: 79-108. # *Erpetopus willostoni, Varanopus curvidactylus, Dromopus palmatus, Dromopus dactylus, Batrachichnus, Amphisauropus, Dromopus agilis, Dromopus lacertoides,* tetrapods, reptiles, footprints, Permian, USA

Hembree, D.I., Martin, L.D. & Hasiotis, S.T. 2004. Amphibian burrows and ephemeral ponds of the Lower Permian Speiser Shale, Kansas: evidence for seasonality in the midcontinent. Palaeogeography, Palaeoclimatology, Palaeoecology, 203: 127-152. # *Brachydectes elongatus, Stomachara, Carbonita, Amphiuma, Siren intermedia, Derbia, Diplocaulus, Acroplous vorax, Euryodus bonneri, Gnathorhiza,* amphibians, lysorophids, estivation, paleosols, rizholiths, roots, lungfish, continental, Permian

Herbst, M., Jarvis, J. U. M. & Bennett, N. C. 2004. A field assessment of reproductive seasonality in the threatened wild Namaqua dune mole-rat (*Bathyergus janetta*). Journal of Zoology, London, 263, 259-268. # mammals, burrows

Heredia, S. & Aceñolaza, G.F., 2005. The *Trapezognathus diprion* conodont zone and correlation of an outstanding occurrence of the *Cruziana rugosa* group (trace fossils) in the Lower Ordovician of western Gondwana. Gondwana, 12: 98.

Hiroki, Y. & Erasaka, T. 2005. Wavy lamination in a mixed and gravel foreshore facies of the Pleistocene Hosoya Sandstone, Aichi, central Japan. Sedimentology, 52(1): 65-75. # *Ophiomorpha*, roots

Hladil, J. 2004. Environmental relationships of endolithic microborers and substrates in barrandian limestones of Devonian age, Czech Republic. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 26. # cyanobacterial, fungal borings, microborings

Hladilová, Š. & Mikuláš, R. 2004. Fosilní žraločí zub se stopami lidské činnosti a bioeroze z lokality Pavlov (gravettien) [Fossil shark tooth with the traces of human activity and bioerosion from the locality of Pavlov (Gravettian)]. Ve službách archeologie V. Sborník k sedmdesátinám RNDr. Emanuela Opravila, CSc. 155-158. Muzejní a vlastivědná společnost v Brně, Brno.

Hladilová, Š. & Mikuláš, R. 2005. Fossil shark tooth: A remarkable working tool from the Pavlov I locality. In: Svoboda, J. et al.: Pavlov I Southeast. A window into the Gravettian lifestyles, Chapter III. 9, p. 391-395. Archeoloigický ústav AVČR, Brno.

Hofmann, H.J. 1992. Megascopic dubiofossils. *In* Schopf, J.W. & Klein, C. (eds.), The Proterozoic Biosphere: a Multidisciplinary Study. Cambridge Univ. Press, Cambridge, p. 413-419. # *Skolithos, Planolites superbus, Planolites corrugatus, Neonereites,* pseudofossils, Precambrian, USA, Canada

Holland, J.S. & Quinton, M.S. 2004. Flickers carving out their niche. National Geographic Magazine, 205(June): 72-79. # *Colaptes auratus,* flicker, bird, borings, nonmarine, recent

Hollocher, K.T., Alcober, O.A., Colombi, C.E. & Hollocher, T.C. 2005. Carnivore coprolites from the Upper Triassic Ischigualasto Formation, Argentina: chemistry, mineralogy, and evidence for rapid initial mineralization. Palaios, 20: 51-63. # coprolite horizon, tetrapods, geochemistry

Horbury, A.D. & Qing, H. 2004. 'Pseudobreccias' revealed as calcrete mottling and bioturbation in the Late Dinantian of the southern Lake District, UK. Sedimentology, 51: 19-38. # *Thalassinoides,* Carboniferous, England, United Kingdom, Great Britain

Hovikoski, J., Roddaz, M., Brusset, S., Antoine, P.-O., Hermoza, W., Baby, P., Romero Pittman, L. & Matti Räsänen, M. 2004. Miocene brackish and fresh- water tidal deposition in Western

Amazonia. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 40-41. # *Cruziana, Skolithos, Ophiomorpha, Thalassinoides, Scolicia (Laminites), Mermia, Scoyenia, Diplichnites, Undichna, Taenidium, Asterosoma, Gyrolithes,* Brazil, Peru

Hu, B. & Qi, Y. 2000. *Zoophycos* ichnofabric on limestones of Taiyuan Formation, North China. Coal Geology & Exploration, 28(1): 12-15. [In Chinese, English summary]. # *Zoophycos, Thalassinoides, Planolites, Taenidium, Palaeophycus, Taichichnus, Chondrites, Carboniferous,* China

Hu, Bin & Wu, Xian-tao. 1993. Ichnofacies of alluvial Jiaguan Formation (Upper Cretaceous), Emei, Sichuan, China. Acta Palaeontologica Sinica, 32(4): 478-489. [In Chinese, English summary]. # *Arenicolites, Cystichnium* igen, n., *Cystichnium curvativum* isp. n., *Planolites vulgaris, Scoyenia gracilis, Gordia, Monomorphichnus lineatus* isp. n*., Oniscoidichnus filiciformis, Paradidymaulichnus* igen. n., *Paradidymaulichnus emeiensis* isp. n*., Pelecypodichnus amagdyloides, Rusophycus univalvis* isp. n., *Steinichnus carlsbergi, Steinichnus largus* isp. n*.,* non-marine

Hu, Bin. 1997. [Ichnology and its Use in the Stratigraphy and Exploration of Coal and Oilfields]. Publishing House of the Mining University of China, Beijing, 209 pp. [In Chinese]. # *Arenicolites, Asterosoma, Phycosiphon, Cruziana, Thalassinoides, Rusophycus, Nereites, Helminthoida, Chondrites, Corophioides, Diplocraterion, Rhizocorallium, Taenidium, Zoophycos, Bifungites, Lanicodichna, Psilonichnus, Stipsellus, Tigillites, Cylindricum, Cylindrichnus, Histoderma, Sabellarifex, Trichichnus, Kulindrichnus, Rosselia, Bergaueria, Laevicyclus,* general, textbook

Hu, Bin, Qi, Yong-an, Zheng, Guo-cheng & Jiang, Zai-xiang. 2002. The ichnocoenoses of Mesozoic-Cenozoic terrestrial deposits of China. Acta Sedimentologica Sinica, 20(4): 574-581. [In Chinese, English abstract]. # *Cystichnium, Palaeophycus, Gordia, Planolites*, *Paradidymaulichnus, Monomorphichnus, Oniscoidichnus, Rusophycus, Pelecypodichnus, Arenicolites, Skolithos. Margaritichnus, Macaronichnus, Monocratrion, Cochlichnus, Helminthoidichnites, Helminthopsis, Brevitubus, Neoonereites, Vagorichnus, Paracantorhaphe, Tuberculichnus, Steincichnus, Mermoides, Planolites,* rhizoliths, lacustrine, fluvial, Triassic, Jurassic, Cretaceous

Hubbard, S., Gingras, M.K. & Pemberton, S.G. 2004. Paleo-environmental implications of trace fossils in estuarine deposits of the Cretaceous Bluesky Formation, Cadotte region, Alberta. Fossils and Strata, 51: 68-87. # *Anconichnus, Arenicolites, Asterosoma, Chondrites, Cylindrichnus, Diplocraterion, Gyrolithes, Helminthopsis, Macaronichnus, Palaeophycus, Planolites, Rosselia, Schaubcylindrichnus, Skolithos, Subphyllochorda, Teichichnus, Teredolites, Thalassinoides,* fugichnia, roots, salinity, Canada

Huh, M., Paik, I.S., Hwang, K.G. & Park, J. 2004. Theropod tracks from Seoyuri in Hwasun, Jeollanamdo, Korea: occurrence and paleontological significance. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 41. # *Magnoavipes, Ornithomimipus, Xiangxipus,* Cretaceous

Hunt, A. P. & Lucas, S. G. 1998. Ichnological evidence for tetrapod predation in the Paleozoic: Is there any? Bulletin of the New Mexico Museum of Natural History and Science, 12: 59-65. # *Amphisauropus*, *Batrachichnus*, *Chelichnus titan*, *Dimetropus*, *Permichnium coconinensis, Laoporus, Permichnium, Octopodichnius,* reptiles, vertebrates, general, USA

Hunt, A. P. & Lucas, S. G. 1998. Implications of the cosmopolitanism of Permian tetrapod ichnofaunas. Bulletin of the New Mexico Museum of Natural History and Science, 12: 55-57. # *Amphisauropus*, *Batrachichnus*, *Chelichnus*, *Dimetropus*, *Dromopus*, *Gilmoreichnus*, *Hyloidichnus*, *Limnopus*, *Ichniotherium, Tambachichnium, Parabaropus, Erpetopus,* reptiles, vertebrates, general, USA

Hunt, A. P. & Lucas, S. G. 1998. Vertebrate ichnofaunas of New Mexico and their bearing on Early Permian tetrapod ichnofacies. Bulletin of the New Mexico Museum of Natural History and Science, 12: 63-65. # *Dimetropus, Batrachichnus*, *Chelichnus, Tambachichnium, Dromopus*, *Amphisauropus, Limnopus*, *Ichniotherium,* reptiles, vertebrates, general, USA

Hunt, A. P. & Lucas, S. G. 1998. Vertebrate tracks and the myth of the belly-dragging, tail-dragging tetrapods of the Late Paleozoic. Bulletin of the New Mexico Museum of Natural History and Science, 12: 67-70. # *Dimetropus nicolasi, Batrachichnus, Laoporus, Permichnium,* reptiles, vertebrates, general, Permian, USA

Hunt, A.P., Lucas, S.G. & Lockley, M.G. 1995. Paleozoic tracksites of the western United States. *In*: Lucas, S.G. & Heckert, A.B. (eds.), Early Permian Footprints and Facies, Albuquerque, 1995, Bulletin of the New Mexico Museum of Natural History and Science, 6: 213-218. # vertebrates, tracksites, Permian, Arizona, Utah, Wyoming, Colorado, New Mexico, Texas, Oklahoma, Kansas, Missouri

Hunt, A.P., Lucas, S.G. & Lockley, M.G. 2004. Large pelycosaur footprints from the Lower Pennsylvanian of Alabama, USA. Ichnos, 11(1-2): 39-44. # *Attenosaurus indistinctus, Attenosaurus subulensis, Alabamosauripus* igen. n., *Alabamosauripus aldrichi* isp. n., USA

Hunt, A.P., Lucas, S.G., Cotton, W., Cotton, J. & Lockley, M.G. 1995. Early Permian vertebrate tracks from the Abo Formation, Socorro County, central New Mexico: A preliminary report. *In*: Lucas, S. G. & Heckert, A. B. (eds.), Early Permian Footprints and Facies, Albuquerque, 1995, Bulletin of the New Mexico Museum of Natural History and Science, 6: 263-268. # *Batrachichnus delicatulus, Limnopus vagus, Hyloidichnus bifurcatus, Dromopus agilis, Gilmoreichnus hermitanus, Dimetropus nicolasi*

Jach, R., Uchman, A., Grabowski, J., Gradziński, M., Kędzierski, M., Pszczółkowski, A. & Tyszka, J. 2004. Sesja terenowa B: Środowisko depozycyjne utworów jury i kredy jednostki krížniańskiej Tatr Zachodnich (Polana Huciska – Dolina Kryta – Huciański Klin – Dolina Lejowa) (Field session B: Depositional environments of Jurassic and Cretaceous deposits of the Krížna Unit, Western Tatra Mointains (Huciska Alp - Kryta Valley – Huciański Klin – Lejowa Valley)). In: Kędzierski, M., Leszczyński, S. & Uchman, A. (eds.), *Geologia Tatr: Ponadregionalny Kontekst Sedymentologiczny, Polska Konferencja Sedymentologiczna, VIII Krajowe Spotkanie Sedymentologów, Zakopane, 21-24.06.2004 r*. Polskie Towarzystwo Geologiczne, Kraków, p. 31-46. # *Chondrites, Planolites punctatus, Palaeophycus tubularis, Teichichnus, Trichichnus, Zoophycos, Thalassinoides*, Jurassic, Cretaceous, Poland

Jackson, C.A.L., Gawthorpe, R.L., Carr, I.D. & Sharp, I.R. 2005. Normal faulting as a control on the stratigraphic development of shallow marine syn-rift sequences: the Nukhul and Lower Rudeis Formations, hammam Faraun fault block, Suez Rift, Egypt. Sedimentology, 52(2): 313-338. # *Thalassinoides, Ophiomorpha, Skolithos, Chondrites, Planolites,* bioturbation, Miocene

Jagt, J.W.M. 2003. The ichnofossil genera *Radulichnus* and *Renichnus* in the Maastrichtian of The Netherlands and Belgium. Bulletin de l'Institut Royal des Sciences Naturelles de Belgique, Science de laTerre = Bulletin van het Koninklijk Belgisch Instituut voor Natuurwetenschappen, Aardwetenschappen, 73: 175-184. # *Radulichnus inopinatus, Renichnus arcuatus*, *Centrichnus eccentricus*, bioerosion

Jahnke, H. & Füldner, K. 2004. Trace fossils of insects in Baltic amber? In: Mikuláš, R. (ed.) 2004. 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 20-23. # insects, bivalves, Oligocene, Russia

James, N.P., Bone, Y., Kyser, T.K., Dix, G.R. & Collins, L.B. 2004. The importance of changing oceanography in controlling Late Quaternary carbonate sedimentation on a high-energy, tropical, oceanic ramp: north-western Australia. Sedimentology, 51(6): 1179-1205. # *Thalassinoides, Ophiomorpha*

Jarošová, L., Hladilová, Š. & Mikuláš, R. 2004. Marine and terrestrial bioerosion on Miocene bioclasts coupled with human adaptation (Palaeolithic archaeological sites of South Moravia,

Czech Republic). In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 24-25. # *Oichnus*

Jensen, S. & Ahlberg, P. 1998. The Cambrian of Västergötland. In: Ahlberg, P. (ed.), Guide to Excursions in Scania and Västergötland, southern Sweden. Lund Publications in Geology, 141: 32-36. # *Diplocraterion parallelum, Monocraterion, Rhizocorallium jenense, Cruziana rusiformis, Cruziana tenella, Gyrolithes polonicus, Palaeophycus imbricatus, Olenichnus, Rosselia socialis, Rusophycus dispar, Rusophycus jenningsi, Trichophycus, Zoophycos, Halopoa imbricata, Syringomorpha nilssoni, Teichichnus, Alectorurus circinnatus,* Cambrian, Sweden

Jensen, S. & Runnegar, B.N. 2005. A complex trace fossil from the Spitskop Member (terminal Ediacaran-? Lower Cambrian) of southern Namibia. Geological Magazine, 142(5): 561-569. # *Streptichnus narbonnei* igen. n. isp. n., *Treptichnus pedum, Phycodes pedum, Trichophycus, Harlaniella podolica, Rusophycus avalonensis, Bergaueria, Conichnus, Gyrolithes, Monomorphichnus, Pteridinium carolinaense, Swartpuntia germsi, Cloudina, Helicorhaphe, Helicolithus, Skolithos, Bucholzbrunnichnus kroeneri, Rangea, Diplocraterion, Nereites, Chondrites, Archaeonassa, Cochlichnus, Helminthopsis, Olenichnus irregularis, Torrowangea rosei,* Ediacaran, Cambrian

Jensen, S. 1998. Stop 1. Lugnås. In: Ahlberg, P. (ed.), Guide to Excursions in Scania and Västergötland, southern Sweden. Lund Publications in Geology, 141: 37. # *Cruziana, Rusophycus, Teichichnus,* Cambrian, Sweden

Jensen, S., Droser, M.L. & Gehling, J.G. 2005. Trace fossil preservation and the early evolution of animals. Palaeogeography, Palaeoclimatology, Palaeoecology, 220: 19-29. # *Treptichnus pedum, Gyrolithes, Rusophycus, Planolites, Kullingia, Hinia reticulata, Archaeonassa, Neonereites uniserialis, Lockeia, Palaeophycus tubularis, Cochlichnus anguineus, Vermiforma antiquea, Changchengia dahongyuensis, Didymaulichnus, Dickinsonia,* tamphonomy, Cambrian, Proterozoic, recent, gastropods, Australia

Joeckel, R.M., Cunningham, J.M., Corner, R.G., Brown, G.W., Phillips, P.L. & Ludvigson, G.A. 2004. Late Albian dinosaur tracks from the cratonic (eastern) margin of the Western Interior Seaway, Nebraska, USA. Ichnos, 11(3-4): 275–284. # reptiles

Johnson, D.L., Domier, J., & Johnson, D.N. 2004. The biodynamic and global biomantle. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 41-42. # general

Kaiser, T.M., Fejfar, O. & Hertel, H. 2004. Fossil insect modification to fossil mammalian bone from the Plio-Pleistocene hominid-bearing deposits of Laetoli (northern Tanzania). In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 29. # Pliocene, termites

Kakuwa Y. & Webb, J. 2004. Trace fossils of Ordovician Seal Creek Chert, Australia. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 42. # *Planolites, Zoophycos, Teichichnus*

Kakuwa, Y. 2004. Trace fossils of the Triassic to Jurassic radiolarian chert successions deposited on the pelagic oceanic bottom. Fossils and Strata, 51: 58-67. # *Chondrites, Planolites, Phycosiphon*, *Teichichnus, Zoophycos,* radiolarites

Kaminski, M.A. & Wetzel, A. 2004. A tubular protozoan predator: A burrow selectively filled with tubular agglutinated protozoans (Xenophyophoria, Foraminifera) in the abyssal South China Sea. In: Bubík, M. & Kaminski, M.A. (Eds.), Proceedings of the Sixth International Workshop on Agglutinated Foraminifera. Grzybowski Foundation Special Publication, 8: 287-293. # recent, deep-sea

Kappel, J. 2003. Ichnofossilien im Campanium des SE-Münsterlands. Münsterische Forschungen zur Geologie und Paläontologie, 96: 1-163. # *Bergaueria perata, Solanichnium confinis* isp. n.*, Circulichnis montanus, Laevicyclus mongraensis, Monticulichnus puteus* igen. n. isp. n., *Skolithos linearis, Alcyonidiopsis longobhardiae, Alcyonidiopsis bavaricus, Alcyonidiopsis pharmaceus, Planolites montanus, Planolites beverleyensis, Palaeophycus heberti, Arenicolites statheri, Laqueichnus baloffi* igen. n. isp. n., *Chondrites intricatus, Chondrites targionii, Thalassinoides suevicus, Thalassinoides paradoxicus, Spongeliomorpha sudolica, Sinusichnus sinuosus, Sinusichnus priesti* isp. n., *Phycodes palmatus, Lorenzinia plana, dactyloidites ottoi, Glockerichnus, Sidichnus catena* igen. n., isp. n., *Rhizocorallium jenense, Zoophycos velum, Lophoctenium, Phymatoderma granulatum, Helicodromites mobilis, Helicorhaphe tortilis, Hostynichnium, Helminthopsis abeli, Taenidium cameroensis, Taenidium dieslingi, Dreginozoum becumensis, Cosmorhaphe, Flexorhaphe* igen. n*., Flexorhaphe crassa, Flexorhaphe japonica, Helminthorhaphe, Megagrapton irregulare, Megagrapton submontanum, Megagrapton fornicatum* isp. n., *Paleodictyon minimum, Paleodictyon maximum, Paleodictyon hexagonum, Paleodictyon italicum, Glenodictyum,* Bandchondriten, calciturbidites, deep-sea, slope, flysch, Cretaceous, Germany

Kelley, P.H. & Hansen, T.A. 2004. Using predation traces to test hypotheses in evolutionary paleoecology: untangling temporal and spatial trends in naticid gastropod drilling. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 42-43. # *Oichnus paraboloides, Oichnus simplex,* Cretaceous-Pleistocene, USA

Kellman, P., Baas, J.H., Best, J. & Uchman A., 2005. Experimental passive fill of U-shaped burrows. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 43. University of Auckland, Auckland. # experiments

Kellman, P., Baas, J.H., Best, J. & Uchman, A. 2004. Passive sediment filling of U-shaped animal burrows. *British Sedimentological Research Group Annual Meeting, December 19th-21st, 2004, Manchester Metropolitan University and University of Manchester, Abstract Volume* [no pagination]. # experiments, *Arenicolites*

Kim, J.Y., Kim, K.-S., Lee, C.Z. & Lim, J.D. 2004. Occurrence of hominid and other vertebrate footprints of Jeju Island, Korea. In: Kim, J.Y., Kim, K.-S., Park, S.I. & Shin, M.-K. (Eds.), Proceedings of International Symposium on the Quaternary Footprints of Hominids and Other Vertebrates. Namjejigun, p. 1-26. # *Bifidis velox, Ardeipeda egretta, Gruipeda maxima, Ignotornis mcconnelli, Pulchravipes magnificus, Ornithotarnocia lambrechti, Presbyorniformipes feducci, Uhangrichnus chuni, Anatipeda anas, Hwangasnipes choughi*, *Undichna*, *Beaconites, Cochlichlichnus, Diplocraterion, Helminthopsis, Lophoctenium, Ophiomorpha, Palaeophycus, Protovirgularia, Skolithos, Spongeliomorpha, Taenidium, Thalassinoides,* mammals, birds, fish, Atriodactyla, Proboscidea, Quaternary, Korea

Kim, J.Y., Keighley, D.G., Pickerill, R.K., Hwang, W. & Kim, K.-S. 2005. Trace fossils from marginal lacustrine deposits of the Cretaceous Jinju Formation, southern coast of Korea. Palaeogeography, Palaeoclimatology, Palaeoecology, 218: 105-124. # *Beaconites antarcticus, Beaconites coronus, Cochlichnus anguineus, Diplichnites didactylus, Octopodichnus, Helminthopsis hieroglyphica, Palaeophycus sulcatus, Palaeophycus tubularis, Planolites annularis, Planolites beverleyensis, Protovirgularia dichotoma, Skolithos magnus, Taenidium barretti,* lacustrine, Scoyenia ichnofacies

Kim, J. Y., Kim, S.H., Kim, K.S. & Lockley, M. 2006. The oldest record of webbed bird and pterosaur tracks from South Korea (Cretaceous Haman Formation, Changseon and Sinsu Island): More evidence for high avian diversity in East Asia. Cretaceous Research, 27: 56-69. # *Ignotornis yangi* isp. n., *Pteraichnus, Ignotornis mcconnelli, Sarjaentopodus semipalmatus, Uhangriichnus semipalmatus, Uhangriichnus chuni, Koreanornis hamanensis, Jindongornipes*

kimi, Goseongoornipes markjonesi, Hwangsanipes choughi, Presbyorniformipes feduccii, Charadripeda, Avipeda, Anatipeda, Reopichnius grahami, Cretaceous

King, M.J., Sarjeant, W.A.S., Thompson, D.B. & Tresise, G. 2005. A revised systematic ichnotaxonomy and review of the vertebrate footprint ichnofamily Chirotheriidae from the British Triassic. Ichnos, 12(4): 241-299. # *Chirotherium sicleri, Chirotherium storetonense, Chirotherium barthii, Synaptichnium pseudosuchoides, Synaptichnium argantobrivense, Synaptichnium cameronense, Synaptichnium hildburghausense, Synaptichnium primum, Synaptichnium priscum, Isochirotherium herculis, Isochirotherium archaeum, Isochirotherium coltoni, Isochirotherium coureli, Isochirotherium delicatum, Isochirotherium demathieui, Isochirotherium felenci, Isochirotherium hessbergense, Isochirotherium jenense, Isochirotherium lomasi, Isochirotherium marshalli, Isochirotherium santacrucense, Brachychirotherium circaparvum, Brachychirotherium eyermani, Brachychirotherium gallicum, Brachychirotherium harrasense, Brachychirotherium hessei, Brachychirotherium kuhni, Brachychirotherium loreti, Isochirotherium bipedale, Brachychirotherium paeneparvum, Brachychirotherium tintanti, Palaeopithecus, Saurichnites, Krokodilipus, Swinnertonichnus, Otozoum, Coelurosaurichnus, Labyrinthodon, Rhynchosaurus,* Chirotheriidae, footprints, Ichnotaxonomy, Triassic, Great Britain

Kleemann, K. 2004. Mytilid boring bivalves from New Caledonia. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 30-31. # *Botula cinnamomea, Gregariella coralliophaga, Lithophaga lifouensis, Lithophaga nigra, Lithophaga straminea, Lithophaga antillarum, Lithophaga simplex, Lithophaga laevigata, Lithophaga lima, Lithophaga purpurea, Lithophaga obesa, Lithophaga malaccana, Lithophaga paraplumula, Lithophaga mucronata*

Klein, H. & Haubold, H. 2004. Differenzierung von ausgewählten Chirotherien der Trias mittels Landmarkanalyse. Hallesches Jahrbuch für Geowissenschaften, B 25: 21-36. # *Chirotherium barthi, Chirotherium sickleri, Brachychirotherium praeparvium, Brachychirotherium harrsene, Brachychirotheriumhassufurtense, Brachychirotherium thuringiacum, Isochirotherium herculis, Isochirotherium marshalli, Synaptichnium diabolense,* tetrapods, reptiles, footprints

Klein, H. & Haubold, H. 2004. Differentiation of selected chirotherians from the Triassic by landmark analysis. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 43. # *Chirotherium barthi, Chirotherium sickleri, Isochirotherium, Brachychirotherium, Synaptichnium diabloense, Brachychirotherium harrasense*

Knaust, D. & Hauschke, N. 2004. Trace fossils versus pseudofossils in Lower Triassic playa deposits, Germany. Palaeogeography, Palaeoclimatology, Palaeoecology, 215: 87-97. # *Planolites, Skolithos, Fuersichnus communis, Phycodes curvipalmatum, Cruziana problematica, Rusophycus eutendorfensis, Diplichnites triassicus, Diplopodichnus biformis, Tambia spiralis, Dactyloidites ottoi, Macoma balthica, Scrobicularia plana, Isopodichnus, Lockeia,* compound trace fosill, pseudofossils, Aristophycus, Buntsandstein

Knaust, D. 2004. Cambro-Ordovician trace fossils from the SW-Norwegian Caledonides. Geological Journal, 39(1): 1-24. # *Beaconites capronus, Macaronichnus segregatis, Cruziana furcifera, Cruziana barbata, Cruziana rugosa, Cruziana semiplicata, Didymaulichnus rouaulti, Rusophycus ramellenis, Halopoa imbricata, Gordia marina, Arenicolites carbonarius, Lockeia amagdyliides, Bergaueria perata, Monocraterion tentaculatum, Palaeophycus alternans, Palaeophycus tubularis, Phycodes palmatus, Planolites montanus, Rusophycus didymus, Treptichnus bifurcus, Trichophycus venosus,* provinciality, metamorphism, Ordovician, Cambrian, Norway

Knaust, D. 2004. Ichnodiversity in shallow-marine carbonates of the Germanic Basin (Middle Triassic, Muschelkalk). In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First

International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 44. # *Rhizocorallium, Pholeus, Thalassinoides, Protovirgularia, Lockeia, Archaeonassa, Conichnus, Zoophycos, Mixoteichichnus coniungus, Balanoglossites tradicus, Trypanites weisei, Gastrochaenolites, Caulostrepsis, Maeandropolydora, Cochlichnus, Gordia, Treptichnus,* Germany

Knaust, D. & Hauschke, N. 2005. Living conditions in a Lower Triassic playa system of Central Germany: evidence from ichnofauna and body fossils. Hallesches Jahrbuch der Geowissenschafen, 19: 95-108. # *Fuersichnus communis, Phycodes curvipalmatum, Skolithos verticalis, Cruziana problematica, Rusophycus eutendorfensis, Diplichnites triassicus, Diplopodichnus biformis, Stiallia pilosa, Lockeia siliquaria, Tambia spiralis, Scoyenia, Treptichnus bifurcus, Zoophycos, Rhizocorallium, Lophoctenium, Cornia germari, Molinestheria seideli, Polygrapta rybinskensis, Estheriella, Limulacea, Planolites, Mermia, Vagorichnus*

Kopaska-Merkel, D.C. & Rindsberg, A.K. (with assistance from DeJarnette, S.S., Gillett, B., Richter, K.F. & Scruggs, G.L.). 2005. Sand-quality characteristics of Alabama beach sediment, environmental conditions, and comparison to offshore sand resources. Geological Survey of Alabama, Annual Report 1 to U.S. Minerals Management Service, CD-ROM, 79 p. Tuscaloosa.

Koptíková, L. & Mikuláš, R. 2004. Nové nálezy ichnofosilií z paleozoických fylitů od Železného Brodu. Zprávy o geologických výzkumech v roce 2003: 83-84. Praha.

Košťák, M. 2004. Short ichnofossil synopsis in Upper Cretaceous belemnite family Belemnitellidae from central and eastern Europe. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 32-33. # *Cliona celata, [Entobia], Polydora, Dictyoporus nodosus, Dendrina belemniticola, Dendrina anomala, Dendrina incomposita, Dendrina orbiculata, Nygmites solitarius, Nygmites pungens, Talpina ramosa, Calcideletrix flexuosa, Calcideletrix breviramosa, Chaetoporites gomondoides, Chaetoporites tenuis,* bivalves, gastropods, arthropods, bryozoans

Kotake, N., Kondo, Y., Fujii, T. & Shibasaki, H. 2004. Paleontologic and ichnologic interpretation for a pecular mode of occurrence of shell concetrations in the lower part of the Tatamigaura Sandstone Member of the Middle Miocene Tougane Formation, Hamada, western part of Shimane, Japan. Journal of the Geological Society of Japan, 110(12): 733-745. # shell concentrations, *Piscichnus waitemata, Thalassinoides suevicus,* rays, fish, Japan

Kovacsik, E. 1997. Életnyomok és epõkiás jelenségek felsõ-karbon tengeri liliomok maradványain (Nagyvisnyó, Bükk hegység) (Trace fossils and encrusting phenomena on columnals of Upper caboniferous crinoids [Nagyvisnyó, Bükk Mts.]). Földtani Közlöny, 127(1): 199-209. # cysts, repairs, Carboniferous, Hungary

Kozur, H.W. & LeMone, D.V. 1995. New terrestrial arthropod trackways from the Abo Member (Sterlitamakian, late Sakmarian, late Wolfcampian) of the Shelom Colony section, Robledo Mountains, New Mexico. *In* Lucas, S.G. & Heckert, A.B. (eds.), Early Permian Footprints and Facies. New Mexico Museum and Natural History and Science, Bulletin, 6: 107-113. Albuquerque. # *Octopodichnus minimus* isp. n., *Eisenachichnus americanus*, *Permichnium robledoense* isp. n., *Robledoichnus* igen. n., *Robledoichnus lucasi* isp. n., *Shalemichnus* igen. n., *Shalemichnus sittigi* isp., n., Permian, USA

Kraft, P., Budil, P., Chlupáč, I., Fatka, O., Kraft, J., Mikuláš, R., Mergl, M. & Bruthansová, J. 2003. Fossil assemblages from the Middle Ordovician Šárka Formation at Praha – Červený vrch Hill (Prague Basin, Barrandian area). Bulletin of Geosciences, 78(2): 99-101. Praha. # *Bergaueria, Chondrites, Nereites, Palaeophycus tubularis, Pilichnus dichotomus, Planolites beverleyensis, Skolithos linearis*, Czech Republic

Krobicki, M. & Uchman, A. 2005. Paleośrodowisko sedymentacji środkowojurajskich radiolarytów manganowych sukcesji braniskiej (pieniński pas skałkowy) w oparciu o analizę

skamieniałości śladowych. Tomy Jurajskie, 3: 135-136. [In Polish]. # *Chondrites, Zoophycos, Planolites, Teichichnus, Taenidium, Siphonichnus,* radiolarites, Jurassic, Poland
Kruse, P.D., Laurie, J.R. & Webby, B.D. 2004. Cambrian geology and paleontology of the Ord Basin. Memoires of the Association of Australian Palaeontologists, 30: 1-58. # *Diplichnites, Monomorphichnus, Cruziana, Rusophycus bilobatus, Phycodes,* Northern Teritory, Australia
Kubica, J. & Mikuláš, R. 2004. Borings in mollusc shells from shallow marine settings of North America in central European freshwater streams. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 34. # *Entobia, Caulostrepsis, Gastrochaenolites,* anthropogenic pollution, human
Kuleta, M., Niedźwiedzki, G. & Ptaszyński, T. 2005. Nowe stanowisko z tropami kręgowców z górnego pstrego piaskowca Gór Świętokrzyskich (New site with vertebrate footprints from Upper Buntsandstein of the Holy Cross Mountains, central Poland). Przegląd Geologiczny, 53(2): 151-155. [In Polish, English summary] # *Skolithos, Gordia, Scoyenia, Palaeophycus, Lockeia, Rhynchosauroides, Capitosaurides, Synaptichnium, Brachychritherium, Chirotherium barthi,* swimming traces, vertebrate footprints, roots, Early Triassic
Kulkarni, K.G. & Borkar, V.D. 2004. Architecture of arboreal nests of *Crematogaster*. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 44-45. # Formicidae, *Avicennia marina, Xantolis tomentosa,* Tertiary, India
Kvaček, Z. 2004. Fossil record of ligniperdous fungi (Miocene, Czech Republic). In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 35-36. # leaves, wood
Kvale, E.P., Mickelson, D.L., Hasiotis, S.T. & Johnson, G.D. 2004. The history of dinosaur footprint discoveries in Wyoming with emphasis on the Bighorn Basin. Ichnos, 11(1-2): 3-9. # Jurassic, Cretaceous, reptiles, USA
Labandeira, C.C. 2004. Recent approaches in using plant insect associational data: quantifying and qualifying the past. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 6. # Early Permian-Recent
Labandeira, C.C., LePage, B.A., and Johnson, A.H. 2001. A *Dendroctonus* bark-engraving (Coleoptera: Scolytidae) from a Middle Eocene *Larix* (Coniferales: Pinaceae): Early or delayed colonization? American Journal of Botany, 88 (11): 2026-2039. # insects, wood
Lamont, P.A. & gage, J.D. 2000. Morphological responses of macrobenthic polychaetes to low oxygen on the Oman continental slope, NW Arabian Sea. Deep-Sea Research II, 47: 9-24. # recent
Lane, A.A., Braddy, S.J., Briggs, D.E.G. & Elliott, D.K. 2003. A new trace fossil from the Middle Cambrian of the Grand Canyon Arizona, USA. Palaeontology, 46 (5): 987-997. # *Bicavichnites martini* igen. n., isp. n., *Treptichnus, Saerichnites, Diplopodichnus, Diplichnites,* Cambrian, Arizona, USA
Lanés, S., Manceñido, M. & Damborenea, S. 2004. A fresh look at *Lapispira:* a neglected nearshore double helicoidal burrow. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 45. # *Chondrites* isp., Jurassic, Sinemurian-Early Pliensbachian, Argentina
Laudet, F. & Selva, N. 2005. Ravens as small mammal bone accumulators: first taphonomic study on mammal remains in raven pellets. Palaeogeography, Palaeoclimatology, Palaeoecology, 226: 272-286.
Laza, J.H. & Tonni, E.P. 2004. Possible trace fossils of termites (Insecta, Isoptera) in the late Cenozoic of the eastern Pampean region, Argentina. In: Buatois, L.A. & Mángano, M.G.

(eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 46. # *Procornitermes, Tacuruichnus, Amitermes,* Echimyidae, Procyonidae, Tayassuidae, *Clyomys, Ctenomys kraglievichi,* Pliocene, Pleistocene

Laza, J.H. 2004. Revision of the ichnogenus *Coprinisphaera* Sauer 1955 and related forms: present stage. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 45-46. # Paleocene-Recent, Argentina, Uruguay

Lee, Y.-N. 1997. Bird and dinosaur footprints in the Woodbine Formation (Cenomanian), Texas. Cretaceous Resaarch, 18: 849-864. # *Skolithos, Conlinoceras tarrantense, Ignotornis mcconnelli, Aquatilavipes swiboldae, Koreanaornis hamanensis, Uhangrichnus chuni, Hwangsanipes choughi, Magnoavipes lowei* igen. n., isp. n.*, Fuscinapedis woodbinensis* igen. n., isp. n.*, Irenesauripus, Columbosauripus, Irenichnites, Richardoestesia gilmorei, Amblydactylus, Caririchnium protohadrosaurichnus* isp. n.*, Kritosaurus,* bird, dinosaurs, Cretaceous, USA

Leighton L.R. 2001. New example of Devonian predatory boreholes and the influence of brachiopod spines on predator success. Palaeogeography, Palaeoclimatology, Palaeoecology, 165(1-2): 53-69. # borings, predation, USA

Leman, M. S. 2003. The discovery of a *Paleodictyon*-like trace fossil from the Late Cambrian Machinchang Formation in Pulau Jemuruk, Langkawi, Malaysia. Buletin Persatuan Geologi Malaysia (Bulletin Geological Society of Malaysia), 46: 421-424. # *Dictyodora, Chondrites, Gordia, Neonereites, Diplichnites, Monomorphichnus, Dimorphichnus, Phycodes pedum, Teichichnus stellatus, Palaeophycus, Arenicolites, Planolites, Thalassinoides, Skolithos*, *Paleodictyon minimum,* false trace fossils, kinneyia

Leszczyński, S. 2004. Bioturbation structures of the Kropivnik Fucoid Marls (Campanian-lower Maastrichtian) of the Huwniki – Rybotycze area (Polish Carpathians). Geological Quarterly, 48(1): 35-60. # *Chondrites intricatus var. Bandchondrites, Cladichnus fischeri, Planolites beverleyensis, Chondrites targionii, Nereites irregularis, Bergaueria hemispherica, Chondrites recurvus, Halopoa imbricata, Ophiomorpha rectus, Paleodictyon strozzii, Palaeophycus, Phycodes, Phymatoderma penicillum, Pilichnus, Scolicia plana, Taenidium recurvum* isp. nov., *Thalassinoides suevicus, Zoophycos brianteus,* flysch

Levin, L.A., Rathburn, A.E., Gutiérrez, D., Muñoz, P. & Shankle, A. 2003. Bioturbation by symbiont-bearing annelids in near-anoxic sediments: Implications for biofacies models and paleo-oxygen assessments. Palaeogeography, Palaeoclimatology, Palaeoecology, 199: 129-140. # *Olavius crassitunicatus,* lamination, El Niño, hypoxia, Oligochaeta, Peru margin, symbiosis, varved sediments, recent

Lewy, Z. & Goldring, R. 2006. Campanian crustacean burrow system from Israel with brood and nursery chambers representing communal organisation. Palaeontology, 49(1): 133-140. # *Ophiomorpha, Thalassinoides, Glyphichnus, Psilonichnus quietis, Cylindrichnus, Callianassa subterranea, Callianassa candida, Callianassa whitei, Callianassa kraussi, Upogebia affinis*, omission surface, bioglyphs, Cretaceous

Li, Y. & Jin, H. 1995. Devonian ichnofossils and their environmental significance of northern belt of western Qinling Mountains. Sciece in China, Series B, 38(1): 85-94. # *Belorhaphe, Bostrichophyton, Chochlichnus, Cosmorhaphe, Fucusopsis, Glockeria, Gordia, Helicolithus, Helminthoida, Helminthopsis, Lophoctenium, Megagrapton, Neonereites, Nereites, paleodictyon, Protopaleodictyon, Spirophycus, Spirorhaphe, Taphrhelminthopsis, Urohelminthoida, Nereites* ichnofacies, turbidites, deep water environment, China

Lindqvist, J.K. 2005. Ichnofabric expressions of helical *Rhizocorallium* and associated trace fossils in the Wangaloa Formation (Late Cretaceous-Paleocene), southeast South Island, New Zealand. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 44-45. University of

Auckland, Auckland. # *Glossifungites, Gyrolithes, Macaronichnus, Ophiomorpha, Palaeophycus, Planolites, Rhizocorallium*
Littlewood, D.T.J. & Donovan, S.K. 2003. Fossil parasites: a case of identity. Geology Today, 19: 136-142.
Lockley, M. 2004. Beyond feet and footprints: what morphodynamics and heterochrony tell us about the relationship between feet, limbs and the whole body. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 6-8. # tetrapods, vertebrates, general
Lockley, M. 2005. The great rift valleys of Pangea in eastern North America. Ichnos, 12: 79-86. # Letourneau, P.M., Olsen, P., book review, *Otozoum, Grallator, Eubrontes giganteus, Batrachopus, Anchisauripus, Plateousarus, Pseudotetrasauropus, Gigandipus caudatus, Anomoepus, Moyenosauripus*
Lockley, M.G. & Avanzin, M. 2004. Some observations on tracks associated with volcaniclastic substrate. In: Kim, J.Y., Kim, K.-S., Park, S.I. & Shin, M.-K. (Eds.), Proceedings of International Symposium on the Quaternary Footprints of Hominids and Other Vertebrates. Namjejigun, p. 112-130.
Lockley, M.G. & Jenkins, D. 2005. Interview with Dolf Seilacher at Ichnia 2004: Trelew Argentina. Ichnos, 12(3): 233-239. # *Paleodictyon hexagonum,* Fossil Art, volcanoes of the deep sea, history
Lockley, M.G. & Meyer, C. 2004. Crocodylomorph trackways from the Jurassic to Early Cretaceous of North America and Europe: Implications for ichnotaxonomy. Ichnos, 11(1-2): 167–178. # *Batrachopus deweyi, Antipus flexiloquus, Susrenodactylus, Stenodactylus, Crocodylopodus*
Lockley, M.G., Houck, K. & Avanzini, M., 2004. Some observations on tracks associated with volcanoclastic substrates. In: Kim, J.Y., Kim, K.-S., Park, S.I. & Shin, M.-K. (eds.), Proceedings of International Symposium on the Quaternary Footprints of Hominids and Other Vertebrates. Namjejigun, p. 112-130. # *Ameghinichnus, Hexapodichnus*, mammals, hominds, Jurassic, Argentina, Pliocene, Laetoli, Tanzania, Japan
Lockley, M.G., Kirkland, J., Milner, A.R.C. 2004. Probable relationships between the Lower Jurassic crocodilomorph trackways *Batrachopus* and *Selenichnus*: Evidence and implications based on new finds from the St. George Area southwestern Utah. Ichnos, 11(1-2): 143–149. # *Selenichnus falcatus, Selenichnus breviusculus, Batrachopus,* USA
Lockley, M.G., Lucas, S.G., Hunt, A.P. & Gaston, R. 2004. Ichnofaunas from the Triassic-Jurassic boundary sequences of the Gateway area, Western Colorado: Implications for faunal composition and correlations with other areas. Ichnos, 11(1-2): 89–102. # *Ameghinichnus, Rhynchosauroides, Eotetrapodiscus, Eopentapodiscus, Entopodiscus priscus, Parapentopodiscus, Aristopentapodiscus, Acropendapodiscus, Myopentapodiscus, Francipentapodiscus, Dinopentapodichnus, Molapentopdiscus, Malutiterapodiscus pertinax, Grallator, Brachychirotherium, Batrachopus, Eubrontes, Paraeopentapodiscus, Pseudoameghinichnus parvulus, Otozoum*, USA
Lockley, M.G., Nadon, G. & Currie, P.J. 2004. A diverse dinosaur-bird footprint assemblage from the Lance Formation, Upper Cretaceous, Eastern Wyoming: Implications for ichnotaxonomy. Ichnos, 11(3-4): 229-249. # *Saurexallopus zerbsti*, isp. n., *Saurexallopus lovei, Ornithomimipus, Camptosaurichnus, Iguanodontichnus, Amblydactylus, Hadrosaurichnus, Hadrosaurichnoides, Iguanodontipus, Ornithopodichnus, Orcauichnites, Caririchnium*, *Handrosauropus* igen. n., *Handrosauropus langstoni* isp. n., *Sarjeantopodus* igen. n., *Sarjeantopodus semipalmatus* isp. n., theropods, reptiles, USA
Lockley, M.G. & Roberts, G. 2004. In the footprints of our ancestors: a brief overview of the hominid track record. In: Kim, J.Y., Kim, K.-S., Park, S.I. & Shin, M.-K. (eds.), Proceedings of International Symposium on the Quaternary Footprints of Hominids and Other Vertebrates.

Namjejigun, p. 27-43. # hominids, red deer, general, Laetoli, Pliocene, Pleistocene, Holocene, Quaternary, Nicaragua, Tanzania, Kenya, Italy, South Africa, USA, France, Korea, UK
Lockley, M.G., White, D., Kirkland, J. & Santucci, V. 2004. Dinosaur tracks from the Cedar Mountain Formation (Lower Cretaceous), Arches National Park, Utah. Ichnos, 11(3-4): 285–293. # *Utahraptor, Nedcolbertia, Brontopodus,* sauropods, theropod, USA
Lockley, M.G., Wright, J.L. & Detlev, T. 2004. Some observations on the dinosaur tracks at Münchehagen (Lower Cretaceous), Germany. Ichnos, 11(3-4): 261–274. # *Megalosauripus*, *Bueckeburgichnus maximus,* sauropod, ornithopod tracks, reptiles
Löwemark, L. 2003. Automatic image analysis of X-ray radiographs: a new method for ichnofabric evaluation. Deep-Sea Research, Part I, 50: 815-827. # *Trichichnus, Mycellia, Golfingia,* ichnofabric, microburrows, pyrite, image analysis, Portuguese continental slope, X-ray radiography, methods, Holocene, Pleistocene, Quaternary, Portugal
Löwemark, L., Chen, C.-H., Huh, C.-A., Lee, T.-Q., Ku, Y.-P., Wei, K.-Y., Chen, C.-W., Chiu, T.-C. & Chen, M.-T., 2004. Biogenic reworking of tephra layers in the South China Sea (core MD972142) and the Celebes Sea (core MD012388). Berita Sedimentologi, 19(1): 31-41.
Löwemark, L. & Grootes, P.M., 2004. Large age differences between planktic foraminifers caused by abundance variations and *Zoophycos* bioturbation. Paleoceanography, 19(2).
Löwemark, L. & Hong, E. 2004. A new ichnospecies of *Schaubcylindrichnus* in Miocene from northeastern Taiwan. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 47-48. # *Schaubcylindrichnus coronus, Schaubcylindrichnus freyi*
Löwemark, L., Lin, H.-L. & Sarnthein, M., 2006. Temporal variations of the trace fossil *Zoophycos* in a 425 k.y.-long sediment record from the South China Sea: Implications for the ethology of the *Zoophycos*-producer. Geological Magazine, 143(1): 105-114.
Löwemark, L., Lin, I.-T., Wang, C.-H., Huh, C.-A., Wei, K.-Y. & Chen, C.-W., 2004. Ethology of the *Zoophycos*-producer: Arguments against the gardening model from $\delta^{13}C_{org}$ evidences of the spreiten material. TAO, 15(4): 713-725.
Löwemark, L., Lin, I.-T., Wang, C., Huh, C., Wei, K., Chen, C. & Schönfeld, J. 2004. Is the *Zoophycos* animal a gardener? A $\delta^{13}C_{org}$ - study of the spreiten material. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 47. # Celebes Sea, Atlantic Ocean
Löwemark, L., Schönfeld, J., Werner, F. & Schäfer, P., 2004. Trace fossils as a paleoceanographic tool: evidence from Late Quaternary sediments of the southwestern Iberian margin. Marine Geology, 204(1-2): 27-41.
Loope, D.B., Ekdale, A.A. & Bromley, R.G. 2003. Intensely bioturbated ichnofabric in a Jurassic eolianite, Navajo Sandstone, southern Utah, U.S.A. 7th International Ichnofabric Workshop, Basel, Switzerland 14-16 July 2003, Abstracts, p. 35-36.
López Cabrera, M.I. & Olivero, E.B. 2004. Mound-shaped burrows from Antarctica: a probable record of *Amanitichnus* in the Upper Cretaceous. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 48. # *Neonereites biserialis, Nereites missouriensis*
López Cabrera, M.I., Olivero, E., Carmona, N. & Ponce, J.J. 2006. La icnosubfacies de *Ophiomorpha rudis* en el Eoceno de Tierra del Fuego. Ponencia. 9º Congreso Argentino de Paleontología y Bioestratigrafía. Córdoba, Argentina 2006.
Lucas, S.G. 1998. Toward a tetrapod biochronology of the Permian. New Mexico Museum of Natural History and Science, Bulletin, 12: 71-92. Albuquerque. # *Dimetropus, Amphisauropus, Limnopus, Dromopus, Tambachichnium, Gilmoreichnus, Ichniotherium, Chelichnus,* footprints, vertebrates, reptiles, USA

Lucas, S.G. 2005. Tetrapod Ichnofacies and Ichnotaxonomy: Quo Vadis? Ichnos, 12(2): 157-162. # conference report

Lucas, S.G., Anderson, O.J., Heckert, A.B. & Hunt, A.P. 1995. Geology of early Permian tracksites, Robledo Mountains, south-central New Mexico. *In*: Lucas, S. G. & Heckert, A. B. (eds.), Early Permian Footprints and Facies, Albuquerque, 1995, Bulletin of the New Mexico Museum of Natural History and Science, 6: 13-32. # *Walchia*, Robledo Mountains Member, Abo Formation, transgression

Lucas, S.G., Estep, J.W. & Hunt, A.P. 1998. Road log to Early Permian tracksites in the Robledo Mountains, Doña Ana County, New Mexico. New Mexico Museum of Natural History and Science, Bulletin, 12: 1-8. Albuquerque. # *Batrachichnus delicatus, Dromopus agilis, Hylidichnus bifurcatus, Gilmoreichnus hermitanus, Dimetropus nicolasi,* footprints, vertabrates, reptiles, USA

Lucas, S.G., Heckert, A.B., Estep, J.W. & Cook, C.W. O.J.1998. Stratigraphy of the Lower Permian the Hueco Group in the Robledo Mountains, Doña Ana County, New Mexico. New Mexico Museum of Natural History and Science, Bulletin, 12: 43-54. Albuquerque. # tracksites, footprits, vertebrates, reptiles, USA

Lucas, S.G., Heckert, A.B., Estep, J.W., Hunt, A.P. & Anderson, O.J.1998. Stratigraphy, paleontology and depositional environments of the Lower Permian Robledo Mountains Formation of the Hueco Group, Robledo Mountains, New Mexico. New Mexico Museum of Natural History and Science, Bulletin, 12: 29-41. Albuquerque. # *Anthracopus, Laoporus, Limnopus, Anthichnium, Batrachichnus delicatus, Dromopus agilis, Hylidichnus bifurcatus, Gilmoreichnus hermitanus, Dimetropus nicolasi*, *Dimetropus lisnerianus, Amphisauropus,* footprits, vertebrates, reptiles, USA

Lucas, S.G. & Hunt, A.P.,1995. Stratigraphy and paleontology of the Lower Permian Earp Formation, Big Hatchet Mountains, Hidalgo County, New Mexico. *In*: Lucas, S.G. & Heckert, A.B. (eds.), Early Permian Footprints and Facies, Albuquerque, 1995, Bulletin of the New Mexico Museum of Natural History and Science, 6: 287-294. # *Walchia piniformis*, *Dromopus lacertoides, Batrachichnus*

Lucas, S.G., Hunt, A.P. & Heckert, A.P. 1995. Preliminary report on paleontology of the Abo Formation, McLeod Hills, Sierra County, New Mexico. In: Lucas, S.G. & Heckert, A.B. (eds.), Early Permian Footprints and Facies, Albuquerque, 1995, Bulletin of the New Mexico Museum of Natural History and Science, 6: 279-286. Albuquerque. # sphenacodont pelycosaur, *Calamites*, *Walchia*, *Batrachichnus delicatulus*, *Batrachichnus*, *Gilmoreichnus hermitanus, Dimetropus*, *Batrachichnus-Dromopus* ichnofacies

Lucas, S.G., Hunt, A.P., Heckert, A.P. & Haubold, H. 1995. Vertebrate paleontology of the Robledo Mountains Member of the Hueco Formation, Doña Ana Mountains, New Mexico. *In*: Lucas, S.G. & Heckert, A.B. (eds.), Early Permian Footprints and Facies, Albuquerque, 1995, Bulletin of the New Mexico Museum of Natural History and Science, 6: 269-278. # *Batrachichnus delicatulus, Limnopus, Hyloidichnus bifurcatus, Dromopus, Gilmoreichnus hermitanus, Gilmoreichnus* sp., *Dimetropus* sp., *Dimetropus leisnerianus*

Lucas, S.G. & Lerner, A.J 2004. Extensive ichnofossil assemblage at the base of the Permian Abo Formation, Carrizo Arroyo, New Mexico. In: Lucas, S.G. & Zeigler, K.E. (eds.), Carboniferous-Permian transition, New Mexico Museum of Natural History and Science Bulletin, 25: 285-290. Albuquerque. # *Cruziana, Palaeophycus striatus, Palaeophycus alternatus, Protovirgularia dichotoma*, USA

Lucas, S.G., Lerner, A.J, Bruner, M. & Shipman, P. 2004. Middle Pennsylvanian ichnofauna from eastern Oklahoma, USA. Ichnos, 11(1-2): 45-55. # *Diplichnites gouldi, Diplopodichnus biformis, Paleohelcura tridactyla, Gordia marina, Tonganoxichnus buildexensis, Cochlichnus, Treptichnus bifurcus, Undichna britannica, Notalacerta, Pseudobradypus,* tracks, tidal flat

Lucas, S. G., Lerner, A.J & Haubold, H. 2001. First record of *Amphisauropus* and *Varanopus* in the Lower Permian Abo Formation, central New Mexico. Hallesches Jahrbuch der Geowissenschaften, B23: 69-78. # *Amphisauropus latus*, tetrapods, reptiles, footprints, USA

Lucas, S.G., Lerner, A.J & Hunt, A.P. 2004. Permian tetrapod footprints from the Lucero uplift, central New Mexico, and Permian footprint biostratigraphy. In: Lucas, S.G. & Zeigler, K.E. (eds.), Carboniferous-Permian transition, New Mexico Museum of Natural History and Science Bulletin, 25: 291-300. Albuquerque. # *Amphisauropus*, *Batrachichnus delicatulus*, *Chelichnus*, *Cruziana, Dicynodontipus*, *Dimetropus*, *Diplopodichnus biformis*, *Dromopus agilis*, *Gilmoreichnus*, *Hyloidichnus*, *Ichniotherium*, *Limnopus*, *Pachypes, Palaeophycus, Protovirgularia, Rhynchosauroides*, *Varanopus*, *Walchia* sp., vertebrates, USA

MacDonald, J.P. 1995. History of the discovery of fossil footprints in southern New Mexico, USA. *In*: Lucas, S.G. & Heckert, A.B. (eds.), Early Permian Footprints and Facies, Albuquerque, 1995, Bulletin of the New Mexico Museum of Natural History and Science, 6: 1-12. # Early Permian redbeds, tetrapod trackways, invertebrate trackways, excavation methods

MacEachern, J.A. & Bann, K.L., 2005. Deltaic ichnology: recognizing river-induced stresses in the shallow marine realm. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 46-48. University of Auckland, Auckland. # *Skolithos*, Canada, United States, Australia, Norwey

MacEachern, J.A., Pemberton, S.G., Gingras, M.K. & Bann, K.L., 2005. Applications of the *Glossifungites* ichnofacies. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 49-51. University of Auckland, Auckland. # *Conichnus, Bergaueria, Planolites, Rhizocorallium, Taenidium, Chondrites, Zoophycos, Skolithos, Diplocraterion, Arenicolites, Psilonichnus, Gastrochaenolites, Thalassinoides, Spongeliomorpha, Glossifungites, Teredolites, Trypanites*

MacNaughton, R.B., Cole, J.M., Dalrymple, R.W., Braddy, S.J., Briggs, D.E.G. & Luckie, T.D. 2002. First steps on land: Arthropod trackways in Cambrian-Ordovician eolian sandstone, southeastern Ontario, Canada. Geology, 30(5): 391-394. # *Protichnites, Diplichnites*

MacNaughton, R.B. & Pickerill, R.K. 2003. Taphonomy and the taxonomy of trace fossils: A commentary. Lethaia, 36(1): 66-70. # general, *Paleodictyon, Nereites, Neonereites, Scalarituba, Paleodictyon, Taenidium, Ancorichnus, Beaconites, Scoyenia, Palaeophycus, Planolites, Skolithos*

Macsotay, O., Erlich, R.N. & Peraza, T. 2003. Sedimentary structures of the La Luna, Navay and Querecual formations, Upper Cretaceous of Venezuela. Palaios, 18: 334-348. # *Favreina, Chondrites, Zoophycos, Paratisoa contorta, Scalarituba missouriensis, Anconichnus horizontalis, Planolites*

Malpas, J.A., Gawthorpe, R.L., Pollard, J.E. & Sharp, I.R. 2005. Ichnofabric analysis of the shallow marine Nukhul Formation (Miocene), Suez Rift, Egypt: implications for depositional processes and sequence stratigraphic evolution. Palaeogeography, Palaeoclimatology, Palaeoecology, 215: 239-264. # *Planolites, Chondrites, Thalassinoides, Ophiomorpha nodosa, Ophiomorpha irregulaire, Taenidium, Teichichnus, Palaeophycus heberti, Scolicia, Biformites, Gastrochaenolites,* ichnofabric, shallow marine, marine flooding surfaces, sequence stratigraphy

Malumián, N., López C., M.I., Nañez, C. & Olivero, E.B. 2004. Bioerosion patterns in Cretaceous-Cenozoic benthic foraminiferal tests from Patagonia and Tierra del Fuego Island. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 48-49. # *"Kolesnikovella" severini, Ammoelphidiella, Buccella, Bulimina, Buliminella, Praebulimina,* Mesozoic-Cenozoic

Manera de Bianco, T. & Aramayo, S.A. 2004. Taphonomic features of Pehuen-Có palaeoichnological site (Late Pleistocene), Buenos Aires Province, Argentina. In: Buatois, L.A.

& Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 49. # mammals, birds, footprints, trackways

Manera de Bianco, T. 1996. Nueva localidad con nidos y huevos de dinosaurios (Titanosauridae) del Cretácico superior, Cerro Blanco, Yaminué, Rio Negro, Argentina. Asociación Paleontológica Argentina, Publicación Especial, 4: 59-67. # dinosaurs, reptiles, nests, eggs, Cretaceous, Argentina

Mángano, M.G. & Buatois, L.A. 2003. *Rusophycus leiferikssoni* Bergström en la Formación Campanario: implicancias en la paleoecología de planicies mareales cámbricas. Asociación Paleontológica Argentina, Publicación Especial, 9: 65-84. # Cambrian, Argentina

Mángano, M.G & Buatois, L.A. 2004. Reconstruction of early Phanerozoic intertidal ecosystems: Ichnology of the Cambrian Campanario Formation in northwest Argentina. Fossils and Strata, 51: 17-38. # *Skolithos linearis, Diplocraterion parallelum, Arenicolites, Cruziana problematica, Rusophycus lefeirikssoni, Rusophycus carbonarius, Diplichnites, Bergaueria perata, Planolites, Palaeophycus tubularis, Helminthoidichnites tenuis, Syringomorpha nilssoni,* agronomic revolution, evolution, piperock, ichnoguilds

Mángano, M.G. & Buatois, L.A. 2004. Decoupling of ichnotaxonomic diversification and mixground ecology during the Early Cambrian. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 50. # *Treptichnus pedum, Skolithos*

Mángano, M.G. & Buatois, L.A. 2004. Ichnology of Carboniferous tide-influenced environments and tidal flat variability in the North American Midcontinent. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 157-179. # *Asteriacites lumbricalis, Arenicolites, Bergaueria, Curvolithus simplex, Cruziana problematica, Diplocraterion, Lockeia siliquaria, Lockeia ornata, Solemyotuba, Teichichnus rectus, Circulichnis montanus, Gordia indianensis, Helminthoidichnites, tenuis, Helminthopsis hieroglyphica, Treptichnus bifurcus, Treptichnus pollardi, Dendroidichnites irregulare, Diplichnites gouldi, Diplopodichnus biformis, Kouphichnium, Mirandaichnium famatinense, Stiallia pilosa, Tonganoxichnus buildexensis, Tonganoxichnus ottawensis, Undichna britannica, Undichna simplicitas, Stiaria intermedia, Nereites missouriensis, Nereites jacksoni, Psammichnites implexus, Psammichnites plummeri, Psammichnites grumula, Protovirgularia rugosa, Protovirgularia bidirectionalis, Rusophycus, Cruziana, Palaeophycus striatus, Palaeophycus tubularis, Rhizocorallium irregulare, Gyrochorte,* tetrapods, Kansas, USA

Mángano, M. G. & Buatois, L., 2005. Ichnology of an Upper Cambrian tide-dominated estuarine system, the Tilcara Member of northwest Argentina. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 52. University of Auckland, Auckland. # *Conostichus, Cruziana omanica, Cruziana problematica, Cruziana semplicata, Diplocraterion parallelum, Monomorphichnus lineatus, Palaeophycus tubularis*, *Planolites montanus, Rusophycus carbonarius*, *Rusophycus latus, Skolithos linearis, Teichichnus rectus*

Mángano, M.G., Buatois, L.A. & Aceñolaza, F.G. 1993. Trazas fósiles en sucesiones volcaniclásticas marinas: un ejemplo en el Ordovícico de la Formación Suri, Sistema de Famatina. Primera Reunion Argentina de Icnologia, Santa Rosa, La Pampa, Argentina, 29 de Junio al. 6 de Julio de 1993, Resumen y Conferencias Invitadas, p. 13. # Ordovician

Mángano, M. G., Buatois, L. A. & Aceñolaza, F. G. 1996. Icnología de ambientes marinos afectados por volcanismo: La Formación Suri, Ordovícico del extremo norte de la Sierra de Narváez, Sistema de Famatina, Argentina. Asociación Paleontológica Argentina, Publicación Especial, 4: 69-88. # *Palaeophycus tubularis, Helminthopsis abeli, Planolites montanus, Planolites beverleyensis, Cruziana furcifera, Phycodes,* Ordovician, Argentina

Mángano, M.G., Buatois, L.A., Limarino, C.O., Tripaldi, A. & Caselli, A. 2003. El icnogénero *Psammichnites* Torell, 1870 en la Formación Hoyada Verde, Carbonífero Superior de la cuenca Calingasta-Uspallata. Ameghiniana 40: 601-608. # *Olivellites*, *Psammichnites plummeri, Psammichnites grumula, Psammichnites implexus, Scolicia, Subphyllochorda, Helminthorhaphe,* Carboniferous, Argentina

Mángano, M.G., Buatois, L.A. & Muñiz-Guinea, F. 2002. *Rusophycus moyensis* n. isp. en la transición Cámbrica-Tremadociana del noroeste Argentino: implicancias paleoambientales y bioestratigráficas. Revista Brasileira de Paleontologia, 4: 35-44. # Ordovician, Argentina

Mángano, M.G., Carmona, N.B., Buatois, L.A. & Guinea, F.M. 2005. A new ichnospecies of *Arthrophycus* from the Upper Cambrian-Lower Tremadocian of Northwest Argentina: Implications for the arthrophycid lineage and potential in ichnostratigraphy. Ichnos, 12(3): 179-190. # *Arthrophycus minimus* isp. n.*, Arthrophycus bongniartii, Arthrophycus alleghanienisis, Arthrophycus linearis, Nanorthis calderensis, Archaeonassa fossulata, Arthraria antiquata, Bergaueria hemispherica, Cruziana problematica, Cruziana semplicata, Dimorphichnus quadrifidus, Diplichnites, Gyrolithes, Gyrophyllites, Monomorphichnus multilineatus, Palaeophycus striatus, Phycodes circinnatum, Phycodes flabellum, Phycodes parallelum, Planolites reinecki, Palaeosaportia loedi, Didymaulichnus, Daedalus, Rusophycus carbonarius, Skolithos linearis,* ichnostratigraphy, Palaeozoic, Cambrian, Ordovician, shallow marine

Mángano, M.G. & Waisfeld, B. 2004. Looking for usual suspects: trilobites as *Cruziana-Rusophycus* producers in lower Paleozoic sandstones of northwest Argentina. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 50-51. # *Cruziana semiplicata, Rusophycus moyensis, Cruziana rugosa, Ogyginus, Neseuretus, Annamitella, Merlinia, Angelina, Leptoplastides*, Cambrian, Ordovician

Manning, P.L. 2004. A new approach to the analysis and interpretation of tracks: examples from the Dinosauria. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 93-125. # preservation, experiments, tetrapods, Jurassic, Yorkshire, England

Manning, P.L. & McIlroy, D. 2004. Scratching the surface of speeding, bipedal dinosaurs in the Jurassic! In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 51. # tetrapods

Marek, J. 2004. Boring *Runia runica* Marek, 1982: a new look on the trace and its tracemaker (Silurian, Czech Republic). In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 37. # algae, sponges

Martin, A.J. 2004. A composite trace fossil of decapod and hymenopteran origin from the Rice Bay Formation (Holocene), San Salvador, Bahamas. In: Gamble, D. & Davis, R.L. (eds.), 12th Symposium of the Geology of the Bahamas, Abstracts and Programs, Gerace Research Center, San Salvador, Bahamas: 21-22.

Martin, A.J. 2004. Tracking as neoichnology: contributions to the science, limitations, and future applications. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 51-52. # methods

Martin, A.J., 2005. Mudcracks as cryptic ichnofabrics: Avian footprints as catalysts for mudcrack development. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 53-54. University of Auckland, Auckland. # *Nycticorax violacea, Himantopus mexicanus,* birds, San Salvador, Bahamas

Martin, A.J. 2005. Avian tracks as initiators of mudcracks: Models for similar effects of non-avian theropods? Journal of Vertebrate Paleontology, 25 (3, Supplement): 89A.
Martin, A.J. 2006. Introduction to the Study of Dinosaurs (2nd edition). Blackwell Publishing, Oxford, 560 p. # tracks, coprolites
Martin, A.J. 2006. Resting traces of the ghost crab *Ocypode quadrata* associated with respiration and hydration, Sapelo Island, Georgia, USA. Ichnos, 13: 57-67.
Martin, A.J. 2006. A composite trace fossil of decapod and hymenopteran origin from the Rice Bay Formation (Holocene), San Salvador, Bahamas. In: Gamble, D. & Davis, R.L. (editors), 12th Symposium of the Geology of the Bahamas, Gerace Research Center, San Salvador, Bahamas: 99-112.
Martin, A.J. & Pyenson, N.D. 2005. Behavioral significance of vertebrate trace fossils from the Union Chapel Mine Site. In Buta, R.J., Rindsberg, A.K. & Kapaska-Merkel, D.C. (eds.), Pennsylvanian Footprints in the Black Warrior Basin of Alabama, Alabama Paleontological Society Monograph, 1: 59-73. Birmingham, Alabama.
Martin, A.J. & Rainforth, E.M. 2004. A theropod resting trace that is also a locomotion trace: case study of Hitchcock's specimen AC 1/7. Geological Society of America Abstracts with Programs, 36(2): 96.
Martin, A.J. & Rindsberg, A.K. 2004. Ichnological insights from the Union Chapel Mine, Alabama (USA) on Carboniferous vertebrate behavior. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 52. # *Cincosaurus, Undichna*
Martin, A.J. & Rindsberg, A.K. 2006. So happy together: multiphyletic group behavior at the Union Chapel tracksite (Pennsylvanian, Alabama). Geological Society of America Abstracts with Programs, 38(2). # *Cincosaurus cobbi, Undichna*
Martin, K.D. 2004. A re-evaluation of the relationship between trace fossils and dysoxia. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 141-157. # *Arenicolites, Palaeophycus, Diplocraterion, Chondrites, Rhizocorallium, Thalassinoides, Taenidium,* oxygenation, Jurassic, England, Great Britain
Martínek, K., Drábková, J., Mikuláš, R., Šimůnek, Z., Štamberg, S. & Zajíc, J. 2004. Paleoenvironmental changes at the Carboniferous-Permian boundary: sedimentary and paleontological record of the Boskovice Basin, Czech Republic. In: Pešek, J., Pešková, J. & Opluštil, S. (eds.), 10th Coal Geology Conference, Abstracts: 10. Univerzita Karlova, Praha.
Martinell, J. & Domènech, R. 2004. Bioerosion and taphonomy: an interesting example of preservation from the marine Miocene of Catalonia (NW Mediterranean). In: Mikuláš, R. (ed.) 2004. 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 38-39. # *Gastrochaenolites, Entobia, Caulostrepsis,* Spain
Martinell, J., Gibert, J.M. de, Domènech, R., Ekdale, A.A. & Steen, P.P. 2001. Cretaceous ray traces? An alternative interpretation for the alleged dinosaur tracks of La Posa, Isona, NE Spain. Palaios, 16: 409-416. # *Piscichnnus, Ophiomorpha nodosa, Thalassinoides suevicus, Arenicolites, Myliobatis,* fish, recent, vertebrates
Martinioni, D.R., Olivero, E.B. & López C., M.I. 2004. Deep marine, Cretaceous *Zoophycos* in the Fuegian Andes, Argentina: distribution and preliminary interpretations. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 53. # *Zoophycos, Phycodes, Chondrites, "Granularia", Helminthopsis, Taenidium, Nereites, Palaeophycus, Planolites, "Terebellina"*
Marty, D. 2004. Dinosaur track excavations along the "Transjurane" highway (Late Kimmeridgian, northwestern Switzerland): Latest results. Abstract, 32nd International Geological Congress, Scientific Sessions, Abstracts (1): 599.

Marty, D. 2005. Sedimentology and Taphonomy of Dinosaur Track-bearing Plattenkalke (Kimmeridgian, Canton Jura, Switzerland). 4th International Symposium on Lithographic Limestone and Plattenkalk, 12th-18th September 2005, Eichstätt. Zitteliana, B26: 20.
Marty, D., Cavin, L., Hug, W.A., Jordan, P., Lockley, M.G. & Meyer, C.A. 2004. The protection, conservation and sustainable use of the Courtedoux dinosaur tracksite, Canton Jura, Switzerland. Revue de Paléobiologie, Special Volume, 9: 39-49.
Marty, D., Cavin, L., Hug, W.A., Meyer, C.A., Lockley, M.G. & Iberg, A. 2003. Preliminary report on the Courtedoux dinosaur tracksite from the Kimmeridgian of Switzerland. Ichnos, 10: 209-219.
Marty, D. & Hug, W. A. 2003: Das Dinosaurier-Spurenvorkommen von Courtedoux, Kanton Jura: Dauerhafter Geotopschutz und nachhaltige Nutzung. In: Jordan, P., Heinz, R., Heitzmann, P., Hipp, R. & Imper, D. (eds.), Geotope – wie schützen / Geotope – wie nutzen, 7. Internationale Jahrestagung der Fachsektion GeoTop der Deutschen Geologischen Gesellschaft und der Arbeitsgruppe Geotope des Geoforums der Schweizerischen Akademischen Gesellschaft. 19.-24. Mai 2003, Bad Ragaz, Schriftenreihe der Deutschen Geologischen Gesellschaft, 32: 115-121.
Marty, D. & Strasser, A. 2005. Sedimentology and palaeoenvironment of dinosaur-track bearing laminites (Late Kimmeridgian, Canton Jura): first results. Abstract volume, SwissSed, 29 January, p. 36-37.
Matsukawa, M., Lockley, M.G., Jianjun, L. & Chen, P. 2004. Tracking dinosaurs and other vertebrates in East Asia. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 53-54. # *Grallator, Eubrontes, Anomoepus, Haenamichnus,* Triassic, Jurassic, Cretaceous, China, Mongolia, Thailand, Laos, Japan, South Korea
Matsukawa, M., Nakanishi, R., Shibata, K., Baba, K. & Hiroaki, A. 2004. Mammalian footprints from Plio-Pleistocene terrestrial deposits around Tokyo and their implication for paleoecosystem reconstruction using food-web and energy-flow model. In: Kim, J.Y., Kim, K.-S., Park, S.I. & Shin, M.-K. (eds.), Proceedings of International Symposium on the Quaternary Footprints of Hominids and Other Vertebrates. Namjejigun, p. 131-132. # Pilocene, Pleistocene, Japan
Matsukawa, M., Shibata, K., Kukihara, R., Koarai, K. & Lockley, M.G. 2005. Review of Japanese dinosaur track localities: Implications for ichnotaxonomy, paleogeography and stratigraphic correlation. Ichnos, 12(3): 201-222. # *Psittacosauruus, Nipponosaurus sachalinensis, Fukuiraptor kitadaniensis, Fukuisaurus tetoriensis, Bigotites, Aulacosphinctoides, Toyamasauripus masuiae, Eucalycoceras, Inoceramus concentricus costatus, Grallator, Schizograllator otariensis* isp. n.*, Asianopodus pulvinicalx* igen. n., isp. n.*, Siamopodus, Caririchnium leonardii, Shiraminesaupopus reini, Gigantoshiraminesauropus matsuoi, Eubrontes,* dinosaur tracks, stratigraphy, ichnotaxonomy, paleogeography, stratigraphic correlation, Japan, Asia, Korea, Laos, Thailand, China
Mazuch, M., Košťák, M. & Fejfar, O. 2004. Gnawing traces on bone of the first dinosaur found in the Czech Republic. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 40-41. # bones, Cretaceous, predation
Mazzetta, G.V. & Calvo, J.O. 2004. On the locomotory implications of the dinosaur ichnofauna at Ezequiel Ramos Mexía Lake, Neuquén, Argentinian Patagonia. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 54. # Albian-Cenomanian, Cretaceous
Mazzoni, M.M., Poire, D.G. Vucetich, Y G. 1993. Estructuras sedimentarias orgánicas en depósitos volcaniclásticos de la Meseta de Canquel, Grupo Sarmiento (Eoceno-Oligoceno),

Provincia de Chubut, Argentina. Primera Reunion Argentina de Icnologia, Santa Rosa, La Pampa, Argentina, 29 de Junio al. 6 de Julio de 1993, Resumen y Conferencias Invitadas, p. 14. # Eocene, Oligocene

McCrea, R.T., Pemberton, S.G. & Currie, P.J. 2004. New ichnotaxa of mammal and reptile tracks from the Upper Paleocene of Alberta. Ichnos, 11(3-4): 323–339. # *Albertasuchipes* igen. n., *Albertasuchipes russellia* isp. n., Sarjeantipodidae ifam. n., *Sarjeantipes* igen. n., *Sarjeantipes whitea* isp. n., *Ducuettichnus kooli, Tricorynopus brinkmani,* mammals, reptiles, Canada

McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 1-490. # general

McIlroy, D. 2004. The application of ichnology to palaeoenvironmental and stratigraphic analysis: introduction. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 1-3. # general

McIlroy, D. 2004. Some ichnological concepts, methodologies, applications and frontiers. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 3-29. # taxonomy, ichnofacies, stratigraphy, sequence stratigraphy, oxygenation, general, ichnofabrics, bioturbation, ichnocoenoses, future, *Arenicolites, Asterosoma, Diplocraterion*, *Palaeophycus heberti, Parahaentzschelinia, Skolithos, Thalassinoides,* escape burrows, Jurassic, Argentina, Australia, Amadeus Basin, Jurassic, Yorkshire, UK, England

McIlroy, D. 2004. Ichnofabrics and sedimentary facies of a tide-dominated delta: Jurassic Ile Formation of Kristin Field, Haltenbanken, Offshore Mid-Norway. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 237-273. # *Arenicolites, Asterosoma, Bergaueria perata, Chondrites, Diplocraterion parallelum, Diplocraterion polyupsilon, Gyrochorte, Gyrolithes polonicus, Lockeia amygdaloides, Monocraterion, Ophiomorpha nodosa, Ophiomorpha irregularis, Palaeophycus tubularis, Palaeophycus heberti, Phoebichnus trochoides, Phycosiphon incertum, Planolites beverleyensis, Rhizocorallium irregularis, Rosselia rotatus, Siphonichnus, Skolithos verticalis, Taenidium serpentinum, Taenidium, Teichichnus rectus, Teichichnus zigzag, Schaubcylindrichnus, Thalassinoides suevicus,* deltaic, tidal, estuarine

McIlroy, D. 2004. High-resolution analysis of lateral variability in shallow marine ichnofabrics: an example from the Middle Jurassic of Yorkshire, United Kingdom. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 54-55. # *Teichichnus rectus, Teichichnus* isp., *Palaeophycus* isp., *Diplocraterion parallelum, Phoebichnus trochoides, Chondrites* isp., *Siphonichnus* isp., *Zoophycos* isp., *Planolites* isp., *Phycosiphon*

McIlroy, D. 2004. Ichnological expressions of key stratigraphic surfaces in an aggrading tide-dominated deltaic succession: Lajas Formation, Neuquen Basin, Argentina. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 55. # *Asteriacites, Arenicolites, Asterosoma, Aulichnites, Dactyloidites, Didymaulichnus, Diplocraterion, Chondrites, Cruziana, Gordia, Helminthoida, Ophiomorpha, Parahaentzschelina, Palaeophycus, Phoebichnus, Phycodes, Planolites, Protovirgularia, Rhizocorallium, Rosselia, Schaubcylindrichnus, Scolicia, Skolithos, Taenidium, Teichichnus, Teredolites, Thalassinoides, Treptichnus, Trypanites*

McIlroy, D., Crimes, T.P. & Pauley, J.C. 2005. Fossils and matgrounds from the Neoproterozoic Longmyndian Supergroup, Shropshire, U.K. Geological Magazine, 142: 441-455.

McIlroy, D. & Falcon-Land, H.J. 2006. Discovery of a *Zoophycos*-group trace fossil (?*Echinospira girotti*) in the Middle Pennsylvanian Sydney Mines Formation of Nova Scotia, and its palaeoenvironmental implications. Atlantic Geology 42: 31-35.
McIlroy, D., Flint, S.S., Howell, J.A. & Timms, N.E. 2006. Sedimentology of the tide dominated Lajas Formation, Jurassic, Neuquén Basin, Argentina. In: Veiga, G. D., Spalletti, L.A., Howell, J.A. & Schwarz, E. (eds.), The Neuquén Basin: a Case Study in Sequence Stratigraphy and Basin Dynamics. Special Publication of the Geological Society, London, 252: 83-107.
McIlroy, D. & Horák, J. 2006. The Neoproterozoic: the late Precambrian terranes that formed Eastern Avalonia. In: Brenchley, P.R. & Rawson, P.F. (eds.), The Geology of England and Wales. Geological Society Publishing House, Bath, 9-25.
McIlroy, D., Worden, R. & Needham, S.J. 2003. Faeces, clay minerals and reservoir potential. Journal of the Geological Society, London, 160: 489-494.
Melchor, R.N. 2004. Trace fossil distribution in lacustrine deltas: examples from Triassic rift lakes of the Ischigualasto-Villa Unión Basin, Argentina. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 335-355. # *Archaeonassa, Avolatichnium, Bifurculapes, Cochlichnus anguineus, Cruziana problematica, Didymaulichnus, Diplichnites, Diplopodichnus, Gordia marina, Helminthoidichnites tenuis, Helminthopsis, Protichnites, Palaeophycus, Rusophycus, Rhynchosauroides, Skolithos, Stiaria, Treptichnus pollardi, Undichna britannica*
Melchor, R.N., Bassan, J. & Fernandez, M.A. 1993. Asociación de trazas fósiles de la facies pelitica de la Formación Agua Escondida (Carbonífero Superior ?), suroeste de Mendoza, Argentina Primera Reunion Argentina de Icnologia, Santa Rosa, La Pampa, Argentina, 29 de Junio al. 6 de Julio de 1993, Resumen y Conferencias Invitadas, p. 15. # Carboniferous
Melchor, R., Bedatou, E. & Valais, S. de, 2004. Ichnology of ephemeral fluvial systems: an example from the Late Triassic Santo Domingo Formation, northwest Argentina. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 56. # *Cochlichnus anguineus, Dicynodontipus* isp., *Helminthoidichnites tenuis, Diplichnites* isp., *Helminthoidichnites* isp., *Nereites, Palaeophycus heberti, Palaeophycus striatus, Palaeophycus tubularis, Planolites beverleyensis, Scoyenia gracilis, Skolithos linearis, Skolithos* isp., *Spongeliomorpha carlsbergi, Spongeliomorpha milfordensis, Taenidium barretti, Taenidium* isp., *Tetrasauropus* isp.
Melchor, R.N., Bellosi, E.S. & Genise, J.F. 2003. Invertebrate and vertebrate trace fossils from a Triassic lacustrine delta: the Los Rastros Formation, Ischigualasto Provincial Park, San Juan, Argentina. Asociación Paleontológica Argentina, Publicación Especial, 9: 17-33. # *Archaeonassa fossulata, Cochlichnus anguineus, Gordia indianensis, Helminthoidichnites tenuis, Helminthopsis abeli, Palaeophycus striatus, Palaeophycus tubularis, Rhynchosauroides, Skolithos, Undichna britannica,* recent
Melchor, R.N. & Genise, J.F. 2004. Invertebrate vs. vertebrate ichnology...or one ichnology? In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 55-56. # *Chelichnus, Laoporus, Brasilichinium,* Permian, general
Melchor, R.N. & Sarjeant, S.W.A. 2004. Small amphibian and reptile footprints from the Permian Carapacha Basin, Argentina. Ichnos, 11(1-2): 57-78. # *Amphisauropus, Batrachichnus salamandroides, Characichnos*, *Hyloidichnus bifurcatus, Varanopus,* swimming trace
Melchor, R.N., Valais, S. de & Genise, J.F. 2004. Middle Jurassic mammalian and dinosaur footprints and petrified forests from the volcanoclastic La Matilde Formation. In: Bellosi, E.S. & Melchor, R.N. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Fieldtrip GuideBook, p. 47-63. # *Ameghinichnus patagonicus, Beaconites, Dekosichnus meniscatus,*

Edaphichnium lumbricatum, Delatorrichnus goyenechei, Grallator, Helminthoidichnites tenuis, Hexapodichnus casamiquelai, Notobatrachus degiustoi, Phellinites degiustoi, Sarmientichnus scagliai, Skolithos, Taenidium, Wildeichnus navesi, Argentina

Melka, K., Ulrych, J. & Mikuláš, R. 2005. Hydrobiotite from the Dětaň Oligocene tuffs (Doupovské hory Mts.). Acta Montana. Rada A, B. Roč. 2, 2 /138/ (2005), p. 117-125.

Merino, O., Bahamonde, J.R., Fernándes, L.P. & Colmenero, J.R. 2004. Anatomy and lithofacies of a steep-fronted Carboniferous carbonate platform and architectural style of the overlying synorogenic deposits (Variscan foreland basin of the Cantabrian Zone, Asturias, NW Spain). *In*: Duarte, L.V. & Henriques, M.H. (eds.), Carboniferous and Jurassic Carbonate Platforms of Iberia. 23rd IAS Meeting of Sedimentology – Coimbra 2004, Sedimentology and Society, Field Trip Guidebook, 1: 21-43. # *Chondrites, Planolites, Thalassinoides*, *Zoophycos*

Metz, R. 2002. Trace fossils, incuding that of a myriapod-like arthropod tracemaker, from Silurian and Devonian strata of New Jersey. Geological Society of America Abstacts with Programs, Northeastern Section – 37 Annual Meeting, March 25-27. # *Aulichnites, Cruziana, Diplichnites, Helminthopsis, Monocraterion, Palaeophycus, Planolites, Protovirgularia, Skolithos,* USA

Metz, R. 2003. Ichnology of the Upper Silurian Wallpack Center Member (Decker Formation), northwestern New Jersey. Northeastern Geology and Environmental Sciences, 25(2): 116-125. # *Cruziana, Diplichnites, Lockeia siliquaria, Palaeophycus heberti, Planolites beverleyensis, Protovirgularia rugosa, Skolithos verticalis,* bilobate trail, USA

Metz, R. 2003. Lower Devonian trace fossils from shallow marine deposits, Shawnee Island Member of the Coeymans Formation, northwestern New Jersey. Northeastern Geology and Environmental Sciences, 25(3): 206-214. # *Chondrites affinis, Palaeophycus tubularis, Planolites beverleyensis, Skolithos linearis, Skolithos ?pusillus, Skolithos verticalis,* USA

Metz, R. 2003. Trace fossils from the Pleistocene Ironshore Fromation, Litte Cayman, British West Indies. Geological Society of America, Abstracts with Programs, 36(2).

Mickelson, D.L., Lockley, M.G., Bishop, J. & Kirkland, J. 2004. A new pterosaur tracksite from the Jurassic Summerville Formation, near Ferron, Utah. Ichnos, 11(1-2): 125-142. # *Arenicolites, Ophiomorpha, Pteraichnus, Therangospodus, Skolithos,* USA

Mikuláš, R. (ed.) 2004. 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, 71 p.

Mikuláš, R. (ed.) 2004. Bioerosion in the geologic record of the Czech Republic. Field trip guide for the pre-conference excursion 4th International Bioerosion Workshop August 22 - August 28, Czech Republic. Institute of Geology, Academy of Sciences, 39 p. Praha.

Mikuláš, R. 2004. An example of Lower Palaeozoic *Oichnus* (Silurian, Czech Republic). In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 42. # *Oichnus paraboloides*

Mikuláš, R. 2004. Corrosive root traces, their secondary modifications and products of chemical corrosion: limestone rockgrounds of supralittoral (Recent, Croatia). In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 43. # *Gastrochaenolites, Entobia*

Mikuláš, R. 2004. The world of traces outside ichnology: possible sources of ichnologic information, and possible fields of ichnologic applications. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 57. # Quaternary

Mikuláš, R. 2004. Zpevněné jíly jako svérázný typ mořského pobřeží. Vesmír, 84:101. [In Czech].

Mikuláš, R. 2004. Ichnofabric and trace fossils in the sedimentary fill of the Boskovice Basin (Carboniferous-Permian; Moravia, Czech Republic). In: Pešek, J., Pešková, J. & Opluštil, S. (eds.), 10th Coal Geology Conference, Prague, 2004, Abstracts, p. 11.

Mikuláš, R. 2004. Stručné dějiny planety Země, jak je vidíme z České republiky. In: Macdougall, J.D. Stručné dějiny planety Země. Kámen a život, oheň a led., p. 258-260. (A Short History of Planet Earth: Mountains, Mammals, Fire, and Ice), translated by R. Mikuláš. Dokořán, Praha: 270 p.

Mikuláš, R. 2005. Biogenní přepracování povodňových sedimentů v Praze - geologická specifika městské aglomerace. Ochrana přírody, 60, 1: 5-6.

Mikuláš, R. 2005. Features of sandstone paleorelief preserved: The Osek area, Miocene, Czech Republic. Ferrantia: travaux scientifiques du Musée national d'histoire naturelle de Luxembourg, 44: 35-38.

Mikuláš, R. 2006. Ichnofabric and substrate consistency in Upper Turonian cabonates of the Bohemian Cretaceous Basin (Czech Republic). Geologica Carpathica, 57(2): 79-90. # *Chondrites, Thalassinoides, Palaeophycus tubularis, Planolites beverleyensis, Phycosiphon incertum, Entobia cretacea, Ophiomorpha, Spongeliomorpha, Phycodes, Teredolites clavatus, Teredolites longissimus*

Mikuláš, R., Budil, P., Bokr, P., Röhlich, P., Kraft, P., Krupička, J. & Verner, K. 2005. Nové údaje o svrchním ordoviku zjištěné při stavbě železničního koridoru mezi nádražími Praha-Libeň a Praha-Masarykovo nádraží. 2. sjezd České geologické společnosti. Sborník abstrakt a exkurzní průvodce. Praha, Česká geologická služba, 60-61.

Mikuláš, R. & Dronov, A.V. 2004. Description vs. interpretation: problem of small rounded pits and shafts of the Early Ordovician hard substrates (St Petersburg Region, Russia). In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 44-45. # *Circolites, Thalassinoides, Trypanites*

Mikuláš, R. & Dronov, A.V. 2004. Early Ordovician of the Baltic Region: a birthplace of modern bioerosion and complex ichnofabrics? In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 57-58. # *Gastrochaenolites oelandicus, Trypanites,* Russia

Mikuláš, R. & Dronov, A. V. 2005. Trace fossils and ichnofabrics of the Obukhovo and Dubovik Formations (Kunda and Aseri), Middle Ordovician) in the St Petersburg Region. The Sixth Baltic Stratigraphical Conference. St. Petersburg: Baltic Stratigraphical Association; A.P. Karpinsky All-Russian Geological Research Institute (VSEGEI); St. Petersburg State University, 2005, p. 75-76.

Mikuláš, R. & Dronov, A.V. 2005. Trace fossils. St. Petersburg: St Petersburg State University and A.P. Karpinsky All-Russian Research Geological Institute, p. 33-38.

Mikuláš, R. & Genise, J.F. 2003. Traces within traces: holes, pits and galleries in walls and fillings of insect trace fossils in paleosols. Geologica Acta, 1(4): 339-348. # *Celliforma, Lazaichnus* igen. n., *Lazaichnus fistulosus* isp. n., *Monesichnus ameginoi, Rebuffoichnus casamiquelai, Teisserei brattinia, Tombownichnus* igen. n., *Tombownichnus plenus* isp. n., *Tombownichnus parabolicus* isp. n., Cretaceous, Eocene, Oligocene, Miocene, Pleistocene, Argentina, Czech Republic, Uruguay, Canary Islands, Spain

Mikuláš, R. & Genise, J.F. 2004. Včely jako paraziti a hostitelé v geologické minulosti. Vesmír, 83: 104. [In Czech]. # insects, parasites, Oligocene, Czech Republic

Mikuláš, R., Kadlecová, E., Fejfar, O. & Dvořák, Z. 2004. Biting and gnawing traces on reptilian and mammalian bones: a case study from the Miocene of the Czech Republic. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 46-48. # preparichnia, beaver, predation

Mikuláš, R., Lehotský, T. & Bábek, O. 2004. Trace fossils of the Moravice Formation from the southern Nízký Jeseník Mts. (Lower Carboniferous, Culm facies; Moravia, Czech Republic). Bulletin of Geosciences, 79(2): 81-98. # *Chondrites intricatus, Cosmorhaphe, Dictyodora liebeana, Diplocraterion parallelum, Falcichnites lophoctenoides, Furculosus, Nereites missouriensis, Paleodictyon strozzii, Phycosiphon incertum, Pilichnus, Planolites beverleynsis, Protopaleodictyon, Rhizocorallium, Urohelminthoida*

Mikuláš, R. & Martínek, K. 2006. Ichnology of the non-marine deposits of the Boskovice Basin (Carboniferous-Permian, Czech Republic). Bulletin of Geosciences, 81(1): 81-91.

Mikuláš, R. & Štolfová, K. 2004. Geologic record of biogenic processes in fluviatile settings of semi-arid area (Carboniferous-Permian ; Krkonoše Piedmont Basin; Czech Republic. In: Mikuláš, R. & Zasadil, B. 2004. A probable fossil bird nest, ?*Eocavum* isp., from the Miocene wood of the Czech Republic. In: Mikuláš, R. (ed.), 2004. Abstract Book. 4th International Bioerosion Workshop. Prague, August 30-September 3, 2004. Institute of Geology, Academy of Sciences, Praha, p. 49-51.

Mikuláš, R. & Zasadil, B. 2004. A probable fossil bird nest, ?*Eocavum* isp., from the Miocene wood of the Czech Republic. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 49-51. # *Eocavum picifactum,* owl

Milàn, J. & Bromley, R.G. 2003. How to distinguish true tracks from undertracks: experimental work with artificial substrates. First European Association of Vertebrate Palaeontologists Meeting, Basel, Switzerland 15-19 July 2003, p. 31.

Milàn, J. & Bromley, R.G. 2005. Dinosaur footprints from the Middle Jurassic Bagå Formation, Bornholm, Denmark. Bulletin of the Geological Society of Denmark, 52: 7-15. # *Dromaeosauroides bornholmensis*

Milàn, J. & Bromley, R.G. 2006. True tracks, undertracks and eroded tracks, experimental work with tetrapod tracks in laboratory and field. Palaeogeography, Palaeoclimatology, Palaeoecology, 231: 253-264.

Milàn, J., Bromley, R.G. & Totschack, J. 2005. Vertebrate footprints from a new aeolian outcrop from southern Rhodes, Greece. International symposium on Dinosaurs and other Vertebrates Palaeoichnology, Abstract Book, Fumanya – St. Corneli (Cercs, Barcelona), October 4-8th 2005, p. 83. # mammals, artiodactyls, proboscidians, camel, Pleistocene, Holocene

Miller, M.F., Jackson, S. & Rindsberg, A.K. 2006. Marine margin and braided stream depositional environments recorded in Lower Pennsylvanian rocks, northern Cumberland Plateau, Tennessee. Geological Society of America Abstracts with Programs.

Miller, M.F., McDowell, T., Smail, S.E., Shyr, Y. & Kemp, N.R., 2002. Hardly used habitats: dearth and distribution of burrowing in Paleozoic and Mesozoic stream and lake deposits. Geology, 30(6): 527-530. # bioturbation, burrowing, general, Jurassic, Triassic, Permian

Miller, M.F., Rindsberg, A.K. & Jackson, S. 2006. Lower Pennsylvanian siliciclastics of the northern Cumberland Plateau: depositional environments and biogenic structures of the Fentress Formation and Rockcastle Conglomerate. In: Labotka, T.C. & Hatcher, R.D., Jr. (eds.), Geological Society of America, 2006 Southeastern Section Meeting, Knoxville, Tennessee, March 23-24, 2006, Field trip guidebook, p. 185-194.

Miller, W., III, Stefani, C. & Grandesso, P. 2004. Alternation of ecologic regimes in a deep-marine carbonate basin: calciturbidite trace fossils from the Cretaceous Scaglia Rossa, northeastern Italy. Palaeogeography, Palaeoclimatology, Palaleoecology, 204: 317-330. # *Ancorichnus, Chondrites intricatus, Phycodes, Planolites beverleyensis, Teichichnus, Thalassinoides suevicus,* flysch

Monaco, P. 2002. Tracce fossili di invertebrati narini e loro rapporti con il substrato: esempi dal Mesozoico e dal Terziario dell'Appennino Umbro e dell'area Voncentia. Studi e Ricerche – Associazione Amici del Museo – Museo Civicio "G. Zannato" Montecchio Maggiore (Vicenza), 15 Dicembre 2002, p. 29-38. # general, *Callianassa major, Chondrites, Imbrichnus*

wattonensi, Ophiomorpha, Thalassinoides, Zoophycos, substrate, recent, Miocene, Cretaceous, Italy
Monaco, P. & Giannetti, A. 2001. Stratigrafia tafonomica nel Giurassico Inferiore dei Calcari Grigi della Piattaforma di Trento. Atti Ticinesi di Scienze della Terra, 42: 175-209. # *Chondrites, Ophiomorpha irregulaire, Ophiomorpha nodosa, Skolithos, Thalassinoides suevicus, Trypanites, Glossifungites* ichnofacies, Jurassic, Italy
Montalvo, C.I. 2004. Late Miocene coprolites from the Cerro Azul Formation at Caleufú, La Pampa, Argentina. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 58. # *Paedotherium minor,* Notoungulata, Hegetotheriidae, *Palaeocavia* sp., Caviidae, Octodontidae
Moreno, K. & Blanco, N. 2004. Scratch marks and a tetradactyl footprint from the Chacarilla Formation (Upper Jurassic-Lower Cretaceous): are they theropod swimming traces?. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 58-59. # Chile
Moreno, K., Jacay, J., Chillitupa, L., De la Vera, P., Hone, D. & Benton, M. 2004. New dinosaur tracksites from Peru: evidence for a wide distribution of large theropods during the Late Jurassic-Early Cretaceous in South America. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 59. Museo Paleontólogico Egidio Feruglio, Trelew.
Morrissey, L.B., Williams, B.P.J., Marriott, S.B. & Hillier, R.D. 2004. Ichnology and sedimentology of tephra horizons in the Lower Old Red Sandstone (Siluro-Devonian) of Southwest Wales). In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 60-61. # United Kingdom, Silurian
Nara, M. 2004. Trace fossil *Bichordites monastiriensis* in Pleistocene shallow marine deposits of the Boso Peninsula, central Japan, and its palaeoenvironmental significance. Journal of the Geological Society of Japan, 110(9): 545-551.
Nara, M., Schlirf, M. & Uchman, A. 2004. Type locality of *Rosselia socialis* Dahmer, 1937 revisited: probable tidal flat deposits of the Lower Devonian Taunus Quartzite in Rossel, west of Rüdesheim, Germany. Fossils, Palaeontological Society of Japan, 75: 1-2. [In Japanese].
Nara, M. & Seike, K. 2004. *Macaronichnus segregatis*-lilke traces found in modern foreshore sediments of the Kujukuri-hama Coast, Japan. Journal of the Geological Society of Japan, 110(9): 545-551. [In Japanese, English abstract]. # *Euzonus*, opheliid polychaete
Narbonne, G.M. & Aitken, J.D. 1995. Neoproterozoic of the Mackenzie Mountains, northwestern Canada. Precambrian Research, 73(1-4): 101-121. # *Phycodes pedum, Planolites, Rusophycus, Torrowangea rossei,* stratigraphy, Precambrian, Cambrian, Canada
Needham, S.J., Worden, R. & McIlroy, D. 2004. Animal-sediment interactions: the effect of ingestion and excretion by worms on mineralogy. Biogeosciences, 1: 113-121.
Needham, S.J., Worden, R. & McIlroy, D. 2005. Experimental production of clay rims by macrobiotic sediment ingestion and excretion processes. Journal of Sedimentary Research, 75: 1028-1037.
Neef, G. 2004. Non-marine ?Late Silurian-Early Devonian trace fossils, Darling Basin, western New South Wales. Alcheringa, 28: 389-399. # *Cruziana, Didymaulichnus lyelli, Diplichnites gouldi, Merostomichnites strandi, Palmichnium antarcticum, Planolites, Rusophycus*, Australia
Neef, G. 2004. Devonian arthropod trackways from the fluvial Ravendale Formation, western New South Wales. Alcheringa, 28: 401-402. # *Diplichnites gouldi, Stiaria quadripedia,* Australia
Nesbitt, E.A. & Campbell, K.A., 2005. Characteristic trace and body fossils and their spatial

distribution within diffuse seeps from a Pliocene shelf setting, Cascadia convergent margin. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 55. University of Auckland, Auckland. # *Acharax ventricosa*, *Calyptogena cf. pacifica*, *Lucinoma annulata*, *Modiolus modiolus*, *Rosselia socialis*, *Yoldia scissulata*, Washington, USA

Neto de Carvalho, C., Fernandes, A.C.S. & Borghi, L. 2003. Diferenciação das icnoespécies e variantes de *Arthrophycus* e sua utilização problemática em Icnoestratigrafia: o resultado de homoplasias comportamentais entre anelídeos e artrópodes? Revista Española de Paleontología, 18(2): 221-228. # *Arthrophycus alleghaniensis, Arthrophycus linearis*, systematics, ichnostratigraphy, Lower Ordovician, behavioural convergence, Anellida, Arthropoda, Portugal

Netto, R.G., Paz, C.P. & Gandini, R. 2004. *Skolithos* piperock in non-marine environments: paleobiologic, paleoecologic and stratigraphic significance. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 61. # *Arenicolites, Glossifungites,* insects, Triassic, Brazil

Netto, R.G. & Rossetti, D.F. 2003. Ichnology and salinity fluctuations: A case study from the early Miocene (Lower Barreiras Formation) of São Luís Basin, Maranhão, Brazil. Revista Brasileira de Paleontologia, 6: 5-18. # *Arenicolites, Chondrites, Cylindrichnus, Diplocraterion, Glossifungites, Gyrolithes, Palaeophycus, Planolites, Ophiomorpha, Phycosiphon, Rhizocorallium, Taenidium, Teichichnus, Thalassinoides*

Neumann, C. 2004. Shell-breaking predation in Late Cretaceous/Early Cenozoic soft-bottom communities patterns and processes. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 52. # Paleocene, echinoids, bitemarks, Netherlands

Nicosia, U., Petti, F.M., Pillola, G.L., Piras, S. & Sacchi, E. 2004. New reports of Carboniferous tetrapod footprints from the S. Giorgio Basin (southwestern Sardinia, Italy). In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 61-62. # *Salichnium heringi*

Niedźwiecki, G. 2005. Nowe znalezisko śladów dinozaurów w górnym triasie Tatr (A new find of dinosaur footprints in the Upper Triassic of the Tatra Mountains, southern Poland). Przegląd Geologiczny, 53(3): 410-413. [In Polish, English summary]. # *Anchisauripus, Anomoepus, Coelurosaurichnus tatraicus, Eubrontes*, *Evazoum, Kayentapus,* tetrapods, Poland

Niedźwiecki, G. & Niedźwiecki, D. 2004. Nowe znaleziska tropów dinozaurów ze śladami śródstopia z dolnej jury Gór Świętokrzyskich (New finds of dinosaur tracks with metatarsal impressions from the Lower Jurassic of the Holy Cross Mountains, central Poland. Przegląd Geologiczny, 52(3): 237-242. # *Kayentapus, Anchisauripus, Moyeniosauropus natator, Anomoepus pienkovskii*, footprints, reptiles

Niedźwiecki, R. 2004. Środowisko sedymentacji dolnego wqapienia muszlowego na Górnym Śląsku. In: Kędzierski, M., Leszczyński, S. & Uchman, A. (eds.), Geologia Tatr: Ponadregionalny Kontekst Sedymentologiczny, Polska Konferencja Sedymentologiczna, VIII Krajowe Spotkanie Sedymentologów, Zakopane, 21-24.06.2004 r. Polskie Towarzystwo Geologiczne, Kraków, p. 114. # *Balanoglossites, Palaeophycus*, *Rhizocorallium, Thalassinoides,* Triassic, Poland

Niedźwiedzki, R. 2005. Stratygrafia, zapis paleontologiczny i warunki sedymentacji wapienie muszlowego na Górnym Śląsku In: Jureczko, J., Buła, Z. & Żaba, J. (eds.). Geologia i Zaganienia Ochrony Środowiska w Regionie Górnosląskim, 72 Zjazd Naukowy Polskiego Towarzystwa Geologicznego, Rudy k/Rybnika, 14-16 września 2005. Warszawa, p. 161-165.

[In Polish] # *Cruziana, Rhizocorallium, Thalassinoides, Balanoglossites, Planolites, Palaeophycus*, Triassic, Poland

Nielsen, K.S.S., Nielsen, J.K. & Bromley, R.G. 2003. Palaeoecological and ichnological significance of microborings in Quaternary foraminifera. Palaeontologia Electronica, 6(2), 13 p.

Oaie, G. & Brustur, T. 1999. *Nereites* ichnofacies in the Palozoic of North Dobrogea. Romanian Journal of Tectonics and Regional Geology, 77, Supplement no 1: 71. # *Chondrites, Helminthoida, Helminthopsis, Nereites, Protopaleodictyon, Scolicia,* Devonian, Romania

Olivero, E.B., Buatois, L.A. & Scasso, R.A. 2004. *Paradictyodora antarctica:* a new complex vertical spreite trace fossil from the Upper Cretaceous-Paleogene of Antarctica and Tierra del Fuego, Argentina. Journal of Paleontology, 78(4): 783-789. # *Daedalus, Dictyodora, Heimdallia mullagmori, Paradictyodora antarctica* igen. n., isp. n.*, Phycodes, Teichichnus patens*

Olivero, E.B. & López Cabrera, M.I. 2005. *Patagonichnus*: a new trace fossil from the Miocene of Patagonia. A probable fodinichnion of gregarious polychaetes. Ameghiniana, 42(2): 277-294. # *Asterosoma radiciforme, Chondrites, Cylindrichnus, Gyrolithes, Helicodromites, Patagonichnus calyciformis* igen. n., isp. n.*, Patagonichnus stratiformis* isp. n.*, Patagonichnus thalassiformis* isp. n.*, Rosselia,* Miocene

Olivero, E.B., & López, C. M.I. 2004. Large, compound, concentrically laminated burrows from the Miocene of Patagonia: ichnotaxonomic and ethologic implications. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 62. # *Asterosoma, Chondrites, Cylindrichnus, Gyrolithes, Helicodromites, Rosselia,* Argentina

Olivero, E.B., López Cabrera, M.I., Carmona, N.B. & Ponce, J.J. 2005. Icnofacies de Nereites (Cretácico-superior-Neogeno) en Tierra del Fuego: composición e implicancias paleoambientales. Ameghiniana, Suplemento, 42(4): 37R.

Olivero, E.B., Malumián, N. & López C., M.I. 2004. Changes in bioturbation intensity near the inoceramid extinction horizon: new data from Antarctica and Tierra del Fuego. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 63-64. # *Cruziana, Rzehakina, Spirophyton, "Terebellina", Zoophycos,* Campanian-Maastrichtian

Olivero, E.B., Ponce, J.J., López C., M.I. & Martinioni, D.R. 2004. *Phymatoderma granulata* from the Oligocene-Miocene of Tierra del Fuego: morphology and ethology. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 63. # *Chondrites, Tasselia, Zoophycos,* Argentina

Olóriz, F., Reolid, M. & Rodríguez-Tovar, F.J. 2004. Microboring the Mid-Late Oxfordian (Late Jurassic) in the Prebetic Zone (Betic Cordillera, southern Iberia). In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 64. # Spain

Omarini, R.H., Sureda, R.J., Götze, H.-J., Seilacher, A. & Pflüger, F. 1999. Puncoviscana folded belt in northwestern Argentina: Testimony of Late Proterozoic Rodinia fragmentation and pre-Gondwana collisional episodes. Journal of Earth Sciences, 88: 76-97. # *Beltanelloides, Didymaulichus, Dimorphichnus, Diplichnites, Gordia, Harlaniella, Helminthopsis, Neonereites, Oldhamia simplex, Paliella, Phycodes, Planolites, Protichnites, Protovirgularia, Pteridinium, Scolicia, Sekwia, Tasmanadia, Torrowangea, Vendospica graptoliforme,* Late Precambrian-Eocambrian

Oszczypko, N., Malata, E., Bąk, K., Kędzierski, M. & Oszczypko-Clowes, M. 2005. Lithostratigraphy and biostratigraphy of the Upper Albian-Lower/Middle Eocene flysch deposits in the Bystrica and Rača subunits of the Magura Nappe; Western flysch Carpathians (Beskid Wyspowy and Gorce ranges,

Poland). Annales Societatis Geologorum Poloniae, 75: 27-69. # *Helminthoida*, *Nereites irregularis*, Senonian, Paleocene

Pacześna, J. & Poprawa, P., 2005. Rola procesów tektonicznych oraz eustatycznych w rozwoju sekwencji stratygraficznych utworów neoproterozoiku i kambru basenu lubelsko-podlaskiego (Relative role of tectonic and eustatic processes and development of the Neoproterozoic and Cambrian stratigraphic sequences of the Lublin-Podlasie Basin). Przegląd Geologiczny, 53(7): 562-571. [In Polish, English summary]. # *Bergaueria major, Diplocraterion, Skolithos, Torrowangea rossei,* Glossifungites ichnofacies, Precambrian, Poland

Pacześna, J., Poprawa, P., Żywiecki, M., Grotek, I., Poniewierska, H. & Wagner, M. 1995. Utwory najwyższego ediakarianu i najniższego kambru basenu lubelsko-podlaskiego jako potencjane skały macierzyste dla węglowodorów (The uppermost Ediacarian to lowermost Cambrian sediments of the Lublin-Podlasie Basin as the potential source rock formation for hydrocarbons). Przegląd Geologiczny, 53(6): 499-506. [In Polish, English summary]. # *Planolites montanus, Torrowangea rossei*, Precambrian, Poland

Paik, I.S. 2005. The oldest record of microbial-caddisfy bioherms from the Early Cretaceous Jinju Formation, Korea: occurrence and palaeoenvironmental implications. Palaeogeography, Palaeoclimatology, Palaeoecology, 218: 301-315. # *Chlorellopsis coloniata,* lacustrine

Paik, I.S., Huh, M., Park, K.H., Hwang, K.G., Kim, K.S. & Kim, H.J. 2004. Yeosu dinosaur track site of Korea: the last dinosaur track records in Asia. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 64-65. # *Caririchnium, Cupressinoxylon sadoense,* Late Cretaceous

Palmer, T. 2004. Microendoliths determine the characteristics of London's architecture. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 53. # Jurassic, microborings

Parras, A., Manera de Bianco, T. & Montalvo, C. 2004. Campanian-Maastrichtian coprolites from northern Patagonia: paleoenvironmental and paleobiological significance. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 65. # Argentina

Patterson, J. & Lockley, M.G. 2004. A probable diatryma track from the Eocene of Washington: An intriguing case of controversy and skepticism. Ichnos, 11(3-4): 341–347. # *Ornithoformipes* igen. n., *Ornithoformipes controversus* isp. n., USA

Paz, C.P., Netto, R.G. & Balistieri, P. 2004. Paleoecological and paleoenvironmental implications of distinct preservation of *Diplichnites gouldi*. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 66. # *Scoyenia,* Carboniferous, Permian, Triassic, Brazil

Pazos, P.J., Rodríguez Amenabar, C. & Pasquo, M., di 2004. Ichnology of the glacial to post-glacial transition in the Imperial Formation (Late Carboniferous), San Rafael Basin, Argentina. In: Bu atois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 66-67. # *Didymaulichnus*

Pearson, N., Gingras, M.K., Armitage, LA. & Pemberton, S.G., 2005. The difficulty of assessing *Piscichnus* ichnofabrics. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 56. University of Auckland, Auckland. # *Corophium volutator,* feeding traces, tidal flats, recent, Bay of Fundy, Canada

Pearson N, and MK Gingras An Ichnological and Sedimentological Facies Model for Muddy Point-bar Deposits Journal of Sedimentary Research (2006) 11p.

Pemberton, S.G. 2003. Biogenic sedimentary structures. In: Middleton, G.V. (Ed.), Encyclopedia of Sediments and Sedimentary Rocks. Kluwer Acadademic Publishers, Dodrecht, p. 71-83. # *Arenicolites variabilis, Asteriacites, Asterosoma, Caulostrepsis, Chondrites, Cosmorhaphe, Cruziana, Cylindrichnus, Diplocraterion parallelum, Entobia, Gastrochaenolites, Glossifungites, Gyrolithes, Helminthoida, Helminthopsis, Lockeia, Lorenzinia, Mermia, Nereites, Ophiomorpha, Palaeophycus, Paleodictyon, Phycodes, Planolites, Psilonichnus, Rhizocorallium, Rosselia, Schaubcylindrichnus, Scoyenia, Skolithos, Skolithos linearis, Spirorhaphe, Taphrhelminthopsis, Teichichnus, Teredolites, Termitichnus, Thalassinoides, Trypanites, Zoophycos,* general, classifications, ichnofacies, substrate

Pemberton, S.G., Gingras, M.K. & Henk F.“B.” 2004. Assessing permeability/porosity trends in bioturbated media. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 200,4, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 8-9. # *Glossifungites,* Ordovician, Devonian, Triassic, Jurassic, Cretaceous, Miocene, USA, Saudi Arabia, North Sea, Colombia

Pemberton, S.G., MacEachern, J.A. & Saunders, T. 2004. Stratigraphic applications of substrate-specific ichnofacies: delineating discontinuities in the rock record. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 29-63. # *Glossifungites* ichnofacies, ichnofacies*, Arenicolites, Asterosoma, Bergaueria, Cylindrichnus, Diplocraterion, Gastrochaenolites, Gyrolithes, Helminthopsis, Lockeia, Ophiomorpha, Palaeophycus, Phycosiphon, Planolites, Rhizocorallium, Rosselia, Schaubcylindrichnus, Siphonichnus, Skolithos, Teichichnus, Thalassinoides, Zoophycos,* Cretaceous, Alberta, New Mexico, USA, Canada

Pemberton, S.G., McCrea, R.T. & Lockley M.G. 2004. William Antony Swithin Sarjeant (1935-2002): A celebration of his life and ichnological contributions. Ichnos, 11(1-2): 1. # biography, history

Pemberton, S.G., McCrea, R. & Lockley, M. 2004. William Antony Swithin Sarjeant (1935–2002): A celebration of his life and ichnological contributions. Ichnos, 11(3-4): 181. # biography, history

Pemberton SG and MK Gingras. “Biopipline networks in the enhancement of fluid flow in bioturbated reservoirs”. American Association of Petroleum Geology Bulletin (Accepted for publication March 2005): 43 ms, 2 tables and 18 figures.

Peralta, S.H. & Aceñolaza, F.G. 1993. Facies sedimentarias e icnofacies asociadas en e Silúrico de la Precordillera central sanjuanina, Argentina. Primera Reunion Argentina de Icnologia, Santa Rosa, La Pampa, Argentina, 29 de Junio al. 6 de Julio de 1993, Resumen y Conferencias Invitadas, p. 16. # Silurian

Peralta, S.H. & Leon, L.L. 1993. Facies de plataforma externa e icnofacies de *Zoophycos* ei el Silúrico de Pachaco, Precordillera central de San Juan, Argentina. Primera Reunion Argentina de Icnologia, Santa Rosa, La Pampa, Argentina, 29 de Junio al. 6 de Julio de 1993, Resumen y Conferencias Invitadas, p. 17. # Silurian

Perna, R., La, 1990. For di predazione da naticidi sui bivalvi della Spiaggia di Catania. Lavori Soc. Ital. Malacol., 24: 177-202. [*Oichnus*], predation, Italy, recent

Perna, R., La, 2005. Tube-dwelling in *Gastrochaena dubia* (Bivalvia): ecological rquirements, functional morphology and structure of the crypt. Bolletino della Società Paleontologia Italiana, 44(2): 145-154. # *Gastrochaenolites*, Mediterranean Sea, Italy, recent

Pervesler, P. & Uchman, A. 2004. Ichnofossils from the type area of the Grund Formation (Miocene, Lower Badenian) in northern Lower Austria (Molasse Basin). Geologica Carpathica, 55(2): 103-110. # *Arenicolites, Asterosoma radiciforme, Diplocraterion, Ophiomorpha nodosa, Saronichnus abeli, Scolicia, Thalassinoides suevicus, Zoophycos*

Pervesler, P. & Uchman, A. 2005. Event-related distribution of ichnofacies in the transgressive deposits of the Grund Formation (Middle Miocene, Lower Badenian) in the molasse zone of

Lower Austria. In: 1st International Workshop: “Neogene of Central and Southern Europe, Fruška Gora Mt., Serbia, May 25-27”, Book of Abstracts. Fruška Gora, Novi Sad, Serbia, p. 40-41. # *Arenicolites, Asterosoma, Diplocraterion, Zoophycos, Ophiomorpha, Saronichnus, Scolicia, Thalassinoides*

Pervesler, P., Uchman, A. & Hohenegger, J. 2005. Actualistic approaches to ichnology. In: Patterns and Processes in the Neogene of the Mediterranean Region, 12th Congress of Regional Committee on Mediterranean Neogene Stratigraphy, 6-11 September 2005, Vienna, Program, Abstract, Participtants. University of Vienna, Department of Paleontology, Natural History Museum, Vienna, p. 178-181. Vienna. # *Helminthoidichnites tenuis,* Pleistocene, Lithiuania, Silurian, USA, *Tonganoxichnus ottawensis,* Carboniferous, crustaceans, *Jaxea nocturna, Upogebia pussila,* orientation, isopods, gammarids, recent, Mediterranean region, Adriatic

Pervesler, P., Uchman, A. & Zuschin, M. 2004. Event-related distribution of ichnofacies in the transgressive deposits of the Grund Formation (Middle Miocene, Lower Badenian) in the Molasse Zone of Lower Austria. In: Pangeo Austria 2004 “Erdwissenschaften und Öffentlichkeit”, Graz, 24.-26. September 2004, Beitrages-Kurzfassungen. Berichte des Institutes für Erdwissenschaften Karl-Franzes-Universität Graz, 9: 332-334. Graz. # *Arenicolites, Asterosoma, Diplocraterion, Ophiomorpha, Saronichnus, Scolicia, Thalassinoides, Zoophycos*

Pervesler, P., Uchman, A. & Zuschin, P. 2004. Trace fossils from the storm-induced event deposits in the type area of the Grund Formation (Middle Miocene, Lower Badenian) in the Molasse Zone of Lower Austria. In: Molasse Group Meeting, Freiburg, 5-6 April 2004, The Molasse basin: learning from the past planning for the future. Geologische Institut der Universität Freiburg, Landesamt für Geologie, Rohstoffe und Bergbau Daden-Württemberg. Freiburg. [No pagination]. # *Arenicolites, Asterosoma, Diplocraterion, Ophiomorpha, Saronichnus, Scolicia, Thalassinoides, Zoophycos*

Pervesler, P. & Zuschin, M. 2004. A lucinoid bivalve trace fossil *Saronichnus abeli* igen. et isp. n. from the Miocene molasse deposits of Lower Austria, and its environmental significance. Geologica Carpathica, 55(2): 111-115. # *Thyasira,* bivalves, *Heimdallia, Pragichnus, Syringomorpha*

Pešek, J., Pešková, J. & Opluštil, S. (eds.), 10th Coal Geology Conference, Prague 2004, Abstracts, p. 12.

Pieńkowski, G. & Gutowski, J. 2004. Geneza krzemieni górnego oksfordu w Krzemionkach Opatowskich (Genesis of the Upper Oxfordian flints in Krzemionki Opatowski, Poland). Tomy Jurajskie, 2: 29-36. # *Ophiomorpha, Spongeliomorpha, Thalassinoides,* silification, Jurassic

Pieńkowski, G. 2004. Sołtyków – unikalny zapis paleoekologiczny wczesnojurajskich uwtorów kontynentalnych (Sołtyków, Poland – an unique palaeoecological record of the Early Jurassic continental deposits). Tomy Jurajskie, 2: 1-16. # *Coprinisphaera* ichnofacies, *Scoyenia* ichnofacies, *Mermia* ichnofacies, *Anchisauripus, Anomoepus, Brasilichnium soltykovensis, Conichnus, Conostichus, Grallator, Imbrichnus*, *Isopodichnus, Kayentapus, Lockeia amagdyloides, Lockeia czarnockii, Parabrontopodus, Planolites, Scalichnus, Scoyenia, Spongeliomorpha, Steinichnus, Megalosauripus*, dinosaur nests, roots, fluvial, lacustrine, nonmarine

Pirrie, D., Feldmann, R.M. & Buatois, L.A. 2004. A new decapod trackway from the Upper Cretaceous, James Ross Island, Antarctica. Palaeontology, 47(1): 1-12. # *Cladichnus, Cylindrichnus, Didymaulichnus, Diplocraterion, Fuersichnus, Nereites, Ophiomorpha, Phycosiphon, Planolites, Palaeophycus, Skolithos, Teichichnus, Teredolites, Thalassinoides suevicus, Tisoa, Zoophycos, Foersterichnus rossensis* igen. n., isp. n.

Piubelli, D., Avanzini, M. & Mietto, P. 2005. The Early Jurassic ichnogenus *Kayentapus* at Lavini di Marco ichnosite (NE Italy). Global distribution and palaeogeographic implications. Bolletono della Società Geologica Italiana, 124: 259-267. # *Anchisauripus minor, Anomoepus,*

Apatichnus, Batrachopus, Dilophosauripus williamsi, Eubrontes, Grallator, Kayentapus minor, Komlosaurus, Lavinipes chemini, Moyenisauropus, Parabrontopodus, Plesiosornis, Stenonix, Hauptdolomit*,* vertebrates, sauropods, dinosaurs, ornithischian tracks, tetrapods, footrprints

Plink-Björklund, P. 2005. Stacked fluvial and tide-dominated estuarine deposits in high-frequency (fourth-order) sequences of the Eocene Central Basin, Spitsbergen. Sedimentology, 52(2): 391-428. # *Planolites, Skolithos, Teichichnus*

Podhalańska, T. 2004. Skamieniałości sladowe w ordowiku strefy Koszalin-Chojnice – nowe dane 9Trace fossils in the Ordovician of the Koszalin-Chojnice area (NW Poland) – new data). Przegląd Geologiczny, 52(12): 1166-1170. [On Polish, English abstract] # *Alcyonidiopsis pharmaceus,* ?*Bergaueria*, ?*Cylindrichnus*, *Chondrites*, *Palaeophycus, Planolites beverleyensis, Planolites montanus, Tomaculum problematicum,* oxygenation

Poiré, D.G. 2004. Unlocking black shale sequence stratigraphy with trace fossils domains in the Silurian of SW Bolivia. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 67. # *Arenicolites, Bergaueria, Chondrites, Cruziana, Cylindrichnus, Dictyodora, Diplichnites, Gordia, Gyrochorte, Helminthopsis, Monomorphichnus, Nereites, Palaeophycus, Phycodes, Planolites, Protopaleodictyon, Rhizocorallium, Rosselia, Rusophycus, Scolicia, Skolithos, Taphrhelminthopsis, Teichichnus, Zoophycos*

Poiré, D.G. & Valle, A., del. 1996. Trazas fósiles en barras submareales de la Formación Balcarce (Cámbrico/Ordovícico), Cabo Corrientes, Mar del Pląta, Argentina. Asociación Paleontológica Argentina, Publicación Especial, 4: 89-102. # *Daedalus labechei, Didymaulichnus, Herradurichnus scagliai* igen. n., *Palaeophycus, Rusophycus, Scolicia, Teichichnus,* Ordovician, Cambrian, Argentina

Ponce, J.J., Olivero, E.B. & Martinioni, D.R. 2004. *Phymatoderma*-bearing turbidites (Oligocene, Tierra del Fuego): ichnologic implications for discrimination of sustained and episodic gravity flow deposits. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 67-68. # *Chondrites, Phymatoderma, Tasselia, Zoophycos,* Argentina

Ponce, J., Olivero, E.B., Martinioni, D.R. & López Cabrera, M.I. 2006. Sustained and episodic gravity flow deposits and related bioturbation patterns in Paleogene turbidites (Tierra del Fuego, Argentina).

Porter, R.J. & Gallois, R.W., 2005. An integrated sedimentological and ichnological analysis of an arenaceous unit in the Mercia Mudstone Group, Triassic, east Devon, U.K. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 57. University of Auckland, Auckland. # *Cylindricum antiquum, Cylindricum grande, Planolites montanus, Skolithos, Taenidium,* England

Prokop, J. 2004. Evidence of leaf-arthropod trace fossils from the Lower Miocene of the Bílina Mine in northern Bohemia (Czech Republic). In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 54-55. # plants, insects

Pruss, S.B. & Bottjer, D.J. 2004. Early Triassic trace fossils of the Western United States and their implications for prolonged environmental stress from the end-Permian mass extinction. Palaios, 19: 551-564. # *Arenicolites, Asteriacites, Gyrochorte, Laevicyclus, Planolites, Rhizocorallium, Thalassinoides,* Permian, California, Nevada, USA

Ptaszyński, T. & Niedźwiecki, G. 2004. Late Permian vertebrate tracks from the Tumlin Sandstone, Holy Cross Mountains, Poland. Acta Palaeontologica Polonica, 49)2): 289-320. # *Amphisauropus latus, Batrachichnus salamandroides, Chelichnus duncani, Dimetropus, Limnopus zeilleri, Palmichnus, Paradoxichnium, Phalangichnus gagoli* isp. n., *Phalangichnus*

gradzinskii isp. n.*, Rhynchosauroides kuletae* isp. n.*, Varanopus microdactylus,* footprints, amphibians, reptails
Pufahl, P.K., James, N.P., Bone, Y. & Lukasik, J.J. 2004. Pliocene sedimentation in a shallow, cool-water, estuarine gulf, Murray Basin, South Australia. Sedimentology, 51: 997-1027. # *Ophiomorpha, Planolites, Psilonichnus, Skolithos, Spirophycus, Thalassinoides, Glossifungites* ichnofacies
Qi Yongan & Hu Bin, 2000. Meter-scale carbonate cycles in the Bachu Formation of the Lower Carboniferous in the Tarim Basin. Experimental Petroleum Geology, 22(2): 152-155. [In Chinese, English summary]. # *Chondrites, Thalassinoides*
Qi, Y. & Hu, B. 2001. Lower Silurian ichnofabrics of Tarim Basin and their environmentary interpretation. Acta Palaeontologica Sinica, 40(1): 116-126. [In Chinese, English summary]. # *Arenicolites, Buthotrephis, Chondrites, Diplocraterion, Gordia, Helminthopsis, Ophiomorpha, Palaeophycus, Planolites, Rhizocorallium, Taenidium, Skolithos, Thalassinoides, Zoophycos,* China
Qi Yongan, Hu Bin & Zhang Guocheng 2005. *Gyrolithes:* A characteristic trace fossil in marginal marine sediments. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 58-59. University of Auckland, Auckland. # *Chondrites, Ophiomorpha, Thalassinoides,* brackish lagoon environment, Lower Silurian, Central Tarim, China
Qi, Y. & Li, K. 2003. Trace fossils from estuarine facies of Donghetang Formation (Upper Devonian), Tarim Basin. Acta Palaeontologica Sinica, 42(2): 277-283. [In Chinese, English summary]. # *Ophiomorpha, Palaeophycus, Planolites, Skolithos,* ichnofabrics
Qi Yongan, et al. 1997. Trace fossils and their environmental significance from Shangmajiagou Formation (Upper Ordovician), Jiyuan Area. Journal of Jiaozuo Institute of Technology, 16(4): 51-54. [In Chinese, English abstract]. # *Chondrites, Gordia, Planolites montanus, Thalassinoides horizontalis,* China
Radies, D., Hasiotis, S.T., Preusser, F., Neubert, E. & Matter, A. 2005. Paleoclimatic significance of Early Holocene faunal assemblages in wet interdune deposits of the Wahiba Sand Sea, Sultanate of Oman. Journal of Arid Environments, 62: 109-125. # *Celliforma, Coprinisphaera, Palmiraichnus, Rosellichnus,* roots
Radtke, G. & Golubić, S. 2005. Microborings in mollusk shells, Bay of Safaga, Egypt: morphometry and ichnology. Facies, 51: 118-134.
Radwańska, U. & Radwański, A. 2004. Systemy pietrowych nor krewetek-alfeuszy i ich znaczenie środowiskowe w oksfordzie i kimerydzie Gór Świętokrzyskich (Tiered burrows of alphid shrimps and their eco-taphonomic significance in the Oxfordian and Kimmeridgian of the holy Cross Mountains). Tomy Jurajskie, 2: 113- 130. # *Spongeliomorpha, Thalassinoides*, Jurassic, Poland
Radwański, A. & Wysocka, A. 2004. A farewell to Świniary sequence of mass-aggregated, spine-coated echinoids *Psammechinus* and their associated (Middle Miocene: Holy Cross Mountains, Central Poland). Acta Geologica Polonica, 54: 381-399. # [*Entobia, Caulostrepsis,*] *Cliona celata, Ophiomorpha nodosa, Polydora ciliata*
Ranger MJ and MK Gingras. “Geology of the McMurray Formation”. Field Guide for the American Association of Petroleum Geologists Annual Meeting Calgary, Alberta. (2005). 134p.
Rasmussen, E.S. & Dybkjær, K. 2005. Sequence stratigraphy of the Upper Oligocene-Lower Miocene of eastern Jylland, Denmark: role of structural relief and variable sediment supply in controlling sequence development. Sedimentology, 52(1): 25-63. # *Ophiomorpha,* bioturbation
Rebata LA, MK Gingras, ME Räsänen, and M Barberi. Tidal-channel deposits on a delta plain from the Upper Miocene Nauta formation, Marañón Foreland Sub-basin, Peru. Sedimentology (2006) 1-43.
Rebata LA, ME Rasanen, MK Gingras, V Vieira Jr., M Barberi, G Irion. Sedimentology and ichnology of tide-influenced Late Miocene successions in western Amazonia: The gradational transition between

the Pebas and Nauta formations. Journal of South American Earth Sciences 21 (2006) 96–119.
Reed, C. 2002. Lighting the mysteries of the abyss. Geotimes, 47: 24-25. # *Paleodictyon*
Reich, L.T. & Pemberton, S.G., 2005. Ichnological differentiation of deltas with prevailing river influence and wave influence in the Yiking Formation, Alberta, Canada. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 60. University of Auckland, Auckland. # *Cruziana, Skolithos,* Lower Cretaceous, deltaic
Reineck, H.E. & Gerdes, G. 1996. A seaward prograding siliciclastic sequence from upper tidal flats to salt marsh facies (southern North Sea). Facies, 34: 209-218. # *Nereis diversicolor,* polychaetes, roots, bioturbation, Germany, recent
Reinhold, M.E. & Kelley, P.H. 2005. The influence of antipredatory morphology on survivorship of the Owl Creek Formation molluscan fauna through the end-Cretaceous extinction. Palaeogeography, Palaeoclimatology, Palaeoecology, 217: 143-153. # bivalves, gastropods, Mississippi, USA
Ribeiro, C.M.M., Carvalho I.S., Arruda, J.T., de & de Arruda Campos, A.C. 2004. Crocodylomorph egg nests from the Adamantina Formation (Bauru Basin, Late Cretaceous), Brazil. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 68. Museo Paleontólogico Egidio Feruglio, Trelew.
Rindsberg, A.K. 2004. Geology of the Decatur 7.5-minute quadrangle, Morgan and Limestone Counties, Alabama: Geological Survey of Alabama, Quadrangle Series, 35: 1-29. Tuscaloosa. # Upper Mississippian, USA
Rindsberg, A.K. 2004. Interview of Allan A. Ekdale, educator: Ichnology Newsletter, 26: 9-17.
Rindsberg, A.K. 2004. *Treptichnus* and the need for a biologically informed classification of trace fossils. Geological Society of America Abstracts with Programs, 36(7): 379-380.
Rindsberg, A.K. 2005. Gas-escape structures and their paleoenvironmental significance at the Steven C. Minkin Paleozoic Footprint Site (Early Pennsylvanian, Alabama). In: Buta, R.D., Rindsberg, A.K. & Kopaska-Merkel, D.C. (eds.), Pennsylvanian Footprints in the Black Warrior Basin of Alabama. Alabama Paleontological Society Monograph, 1: 177-183. Birmingham, Alabama. # burrows, pseudotraces
Rindsberg, A.K. & Kopaska-Merkel, D.C. 2005. *Treptichnus* and *Arenicolites* from the Steven C. Minkin Paleozoic Footprint Site (Langsettian, Alabama, USA). In: Buta, R.D., Rindsberg, A.K. & Kopaska-Merkel, D.C. (eds.), Pennsylvanian Footprints in the Black Warrior Basin of Alabama. Alabama Paleontological Society Monograph, 1: 121-141. Birmingham, Alabama. # *Arenicolites longistriatus* isp. n., *Haplotichnus indianensis, Plangtichnus erraticus, Treptichnus apsorum* isp. n., *Treptichnus bifurcus,* Carboniferous, Alabama, Indiana, USA
Rindsberg, A.K. & Kopaska-Merkel, D.C. (with assistance from Collier, R.T.). 2006. Sand-quality characteristics of Alabama beach sediment, environmental conditions, and comparison to offshore sand resources, Annual Report 2. Geological Survey of Alabama, Open-File Report 0607 to U.S. Minerals Management Service, CD-ROM. Tuscaloosa. # *Subphyllochorda, Ophiomorpha, Skolithos, Thalassinoides,* continental shelf, storm effects, vibracores
Rindsberg, A.K. & Martin, A.J. 2004. Invertebrate trace fossils from the Union Chapel Mine of Alabama (Early Pennsylvanian: Langsettian). In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 68-69. # *Kouphichnium, Lockeia,* cf. *Planolites, Protovirgularia, Treptichnus,* Carboniferous, USA
Rindsberg, A.K. & Martin, A.J. 2004. One ichnology. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 69. # general
Rindsberg, A.K. & Mikuláš, R. 2004. Third Workshop on Ichnotaxonomy, Prague, September 2006. Ichnology Newsletter, 26: 75-76. # conference announcement

Rindsberg, A.K & Uchman, A. (eds.) 2004. Ichnology Newsletter, 26: 1-162. Trelew.
Rindsberg, A.K. & Uchman, A. 2004. Introduction. Ichnology Newsletter, 26: 7-8.
Rindsberg, A.K. & Uchman, A. 2004. Ichnologic meetings and events, 2003 onward. Ichnology Newsletter, 26: 26-27.
Rindsberg, A.K. & Uchman, A. 2004. New books on ichnology, 2003. Ichnology Newsletter, 26: 77.
Rindsberg, A.K., Uchman, A., & Kopaska-Merkel, D.C. 2004. *Treptichnus* made by insect larvae in the Pennsylvanian of Alabama. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 70. # *Planolites, Treptichnus* [*apsorum*], *Treptichnus bifurcus,* USA
Roberts, G. 2004. Ephemeral, subfossil mammalian and avian tracks within intertidal-zone, Flandrian sediment exposures at Formby Point, Sefton Coast, North West England . In: Kim, J.Y., Kim, K.-S., Park, S.I. & Shin, M.-K. (Eds.), Proceedings of International Symposium on the Quaternary Footprints of Hominids and Other Vertebrates. Namjejigun, p. 54-83. # roe deer, red deer, crane, dog, wolf, aurochs, mammals, *Homo*, birds, Holocene, England, Great Britain, UK
Rodrigues, L.A. & Santos, V.F. dos, 2004. Sauropodomorpha ichnites – discriminate shape factors in ichnological classifications.). In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 71. # Sauropodomorpha, Sauropoda, methods
Rodríguez, M.F. & Panza, J.L. 2003. La icnofacies de *Glossifungites* en la Formación Salamanca, paraje Campamento Yillegas, Chubut, Argentina. Asociación Paleontológica Argentina, Publicación Especial, 9: 157-167. # *Palaeophycus, Thalassinoides paradoxicus,* Paleocene, Argentina
Rodríguez-de la Rosa, R.A., Aguillón-Martínez, M.C., López-Espinoza, J. & Eberth, D.A. 2004. The fossil record of vertebrate tracks in Mexico. Ichnos, 11(1-2): 27-37. # *Pteraichnus*, *Grallator*, Jurassic, Cretaceous, Tertiary, Pliocene, Pleistocene, dinosaurs, reptiles, footprints, mammals, birds, turtles, crocodiles, human tracks
Rodríguez-Tovar, F.J. & Uchman, A. 2004. Ichnotaxonomic analysis of the Cretaceous/Palaeogene boundary interval in the Agost section, south east Spain. Cretaceous Research, 25(5): 647-655. *Alcyonidiopsis longobardiae, Chondrites targionii, Diplocraterion parallelum, Planolites, Thalassinoides, Zoophycos,* Cretaceous, Paleocene
Rodríguez-Tovar, F.J. & Uchman, A. 2004. Trace fossils after the K-T boundary event from the Agost Section, SE Spain. Geological Magazine, 141: 429-440. # *Alcyonidiopsis longobardiae, Chondrites targionii, Diplocraterion parallelum, Planolites, Thalassinoides, Zoophycos,* Cretaceous, Paleocene
Rodríguez-Tovar, F.J. 2004. Substrate firmness controlling nesting behavior of *Bembix oculata* (Hymenoptera, Sphecidae). In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 70-71. # insects, recent, Spain
Rodríguez-Tovar F.J. 2005. Fe-oxide spherules infilling *Thalassinoides* burrows at the Cretaceous-Paleogene (K-P) boundary: Evidence of a nearcontemporaneous macrobenthic colonization during the K-P event. Geology, 33(7): 585-588. # *Thalassinoides, Alcyonidiopsis, Chondrites, Planolites, Zoophycos, Ophiomorpha, Spongeliomorpha, Glossifungites,* Cretaceous, Paleocene, Spain
Roetzel, R. & Pervesler, P. 2004. Storm-induced event deposits in the type area of the Grund Formation (Middle Miocene, Lower Badenian) in the Molasse zone of Lower Austria. In: Pangeo Austria 2004 “Erdwissenschaften und Öffentlichkeit”, Graz, 24.-26. September 2004.,

Beitrages-Kurzfassungen. Berichte des Institutes für Erdwissenschaften Karl-Franzes-Universität Graz, 9: 350-351. Graz. # *Saronichnus, Scolicia, Thalassinoides, Zoophycos*
Roetzel, R. & Pervesler, P. 2004. Storm-induced event deposits in the type area of the Grund Formation (Middle Miocene, Lower Badenian) in the Molasse zone of Lower Austria. Geologica Carpathica, 55(2): 87-102. # *Arenicolites, Asterosoma, Diplocraterion, Ophiomorpha nodosa, Saronichnus, Scolicia, Thalassinoides, Zoophycos,* bivalves, *Thyasira,* bioturbation
Rogers, A.D. 2000. The role of the oceanic oxygen minima in generating biodiversity in the deep sea. Deep-Sea Research II, 47: 119-148.
Romanach, S.S., Reichman, O.J. & Seabloom, E.W. 2005. Seasonal influences on burrowing activity of a subterranean rodent, *Thomomys bottae*. Journal of Zoology, 266: 319-325. # digging, burrowing, mound production.
Romano, M. & Whyte, M.A. 2003. Jurassic dinosaur tracks and trackways of the Cleveland Basin, Yorkshire: preservation, diversity and distribution. Proceedings of the Yorkshire Geological Society, 54(3): 185-215. # *Beaconites, Breviparopus, Cochlichnus, Deltapodus brodicki, Kouphichnium, Lockeia, Protovirgularia, Selenichnites, Taenidum,* footprints, reptiles, dinoturbation, taphonomy, UK, England, Great Britain
Romano, M. & Whyte, M.A. 2004. The first record of xiphosurid (arthropod) trackways from the Saltwick Formation, Middle Jurassic of the Cleveland Basin, Yorkshire. Palaeontology, 46(2): 257-269. # *Beaconites, Diplocraterion, Kouphichnium variabilis, Lockeia, Taenidum,* UK, England, Great Britain
Rotnicka, J. 2005. Ichnofabrics of the Upper Cretaceous fine-grained rocks from the Stołowe Mountains (Sudetes, SW Poland). Geological Quarterly, 49(1): 15-30. # *Asterosoma, Cylindrichnus, Ophiomorpha, Palaeophycus, Phycosiphon, Planolites, Taenidium, Teichichnus, Thalassinoides*, *Cruziana* ichnofacies, *Skolithos* ichnofacies
Roux, M., Bouchet, P., Bourseau, J.P., Gaillard, C., Grandperrin, R., Guille, A., Laurin, B., Monniot, C., Richer de Forges, B., Rio, M., Segonzac, M., Vacelet, J. & Zibrowius, H. 1991. L'environnement bathyal au large de la Nouvelle-Calédonie: résultats préliminaires de la campagne CALSUB et conséquences paléoécologiques. Bulletin de la Société Géologique de France, 162(4): 675-685.
Rozhnov, S.V., Jr, 1998. Rezultaty eksperimentov po zahronenyu sciphomeduz *Cyanea capillata*, L., 1758 (Results on burial experiments on the scyphomedusa *Cyanea capillata* L., 1758). Paleontologicheskiy Zhurnal, 1998(3): 12-14. [In Russian, English abstract]. # taphonomy
Rubio, J.L. & Sanz, J.L. 2004. Large bird-like footprints in the Early Cretaceous of North Central Spain. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 71-72. Museo Paleontólogico Egidio Feruglio, Trelew.
Rubio, J.L., Pilar Luzón, M. del, & Polo, N. 2004. New theropod ichnites from the Berriasian of North Central Spain (Soria Province). In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 72. # Cretaceous
Rudolph, F. 2002. *Arcuatichnus wimani* Kowalski 1978, ein seltenes Spurenfossil in unterkambrischen Geschieben. Der Geschiebesammler, 36(1): 29-38. # *Plagiogmus,* erratic blocks Cambrian, Germany
Ruggiero, E.T. & Buono, G. 2004. Bioerosion on brachiopod shells of a thanatocoenosis of Alborn Sea. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 56. # predation, [*Oichnus*]
Ruiz-Omeñaca, J.I., Barco, J.L. & Canudo, J.I. 2004. Dinosaur reconstructions inferred from the ichnological record of the lowermost Cretaceous of Soria (Cameros Basin, Spain). In: Buatois,

L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 72-73. # *Allosaurus, Brachiosaurus, Compsognathus, Iguanodon, Kalohipus bretunensis, Parasaurolophus, Sinosauropteryx, Stegosaurus, Triceratops*

Rydel, J., Hammarlund, J. & Seilacher, A. 2001. Trace fossil associations in the Swedish Mickwitzia sandstone (Lower Cambrian): Did trilobites really hunt for worms? GFF, 123: 247-250. # *Cruziana acacensis, Cruziana dispar, Planolites, Rusophycus alleghanensis, Rusophycus dispar, Teichichnus,* Silurian, Libya, Sweden

Sánchez, J.D. & Rodríguez, S. 2004. Technology Intelligence (TI) in ichnology: an example of its application to Venezuelan oil fields. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 73. # Cretaceous, methods, Venezuela

Santos, A., Mayoral, E. & Muñiz, F. 2005. Bioerosion scars of acorn barnacles from the southwestern Iberian Peninsula, Upper Neogene. Rivista Italiana di Paleontologia e Stratigrafia, 111(1): 181-189. # *Anellusichnus circularis* igen. n., isp. n., *Anellusichnus undulatus* isp. n., Miocene, Pliocene, Spain

Santos, A., Mayoral, E., Muñiz, F., Boski, T. & Cachão, M. 2003. Variaciones morfológicas en *Maeandropolydora sulcans* Voigt, 1965, del Néogeno superior marino del extremo suroccidental de la peninsula Ibérica. Asociación Paleontológica Argentina, Publicación Especial, 9: 177-184. # borings, Miocene, Pliocene, Spain

Santos, V.F. & Rodrigues, L.A. 2004. Portuguese dinosaur tracksites as natural monuments. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 73. # Jurassic-Cretaceous, Portugal

Santos, V.F., Moratalla, J.J., Rodrigues, L.A., & Sanz, J.L. 2004. New sauropod ichnogenus from the Middle Jurassic of Portugal. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 74. # *Opisthonyx portucalensis* igen. n., isp. n*., Polyonyx gomesi* igen. n., isp. n.

Sarjeant, W. A. 1996. Pisadas en las arenas del tiempo: Pisadas de vertebrados y la interpretación de paleoambientes sedimentarios Perspectiva histórica y principales aplicaciones. Asociación Paleontológica Argentina, Publicación Especial, 4: 31-36. # *Brasilichnium elusivum, Chelichnus duncani, Chirotherium, Duquettichnus kooli, Hylopus duncani, Moodeichnus didactylus, Oklahomaichnus millsi,* history, footprints, tracks, Carboniferous, Permian, Troasic, Cretaceous, Australia, British Columbia, Texas, Oklahoma, USA, Canada, Germany, Brazil

Sarjeant, W.A.S. & Langston, W. 1994. Vertebrate footprints and invertebrate traces from the Chadronian (Late Eocene) of Trans-Pecos Texas. Bulletin of the Texas Memorial Museum, 36: 1-86. # *Anatipeda anas, Anoployheriipus zeucus* isp. n., *Apoxypus* igen. n., *Apoxypus tesselatus* isp. n., *Ardeipeda egretta, Avipeda phoenix, Avipeda adunca* isp. n., *Axiciapes* igen. n., *Axiciapes ferox* isp. n., *Axiciapes curvidigitatus* isp. n., *Bestiopeda, Cervipeda dicroceroides*, *Charadriipeda recurvirostroidea, Chelipus* igen. n., *Chelipus gracilis*, *Chelonipus chadronicus* isp. n., *Chelonipus parvus* isp. n., *Corymbipes* igen. n., *Corymbipes superstes* isp. n., *Gruipeda maxima, Gruipeda calcarifera* isp. n., *Falcatipes* igen. n., *Falcatipes floriformis* isp. n., *Fuscinapeda* igen. n., *Fuscinapeda meunieri* isp. n., *Fuscinapeda texana* isp. n., *Gambapes* igen. n., *Gambapes hastatus* isp. n., *Lamaichnium guanicoe, Megalamaichnium*, *Odocoilenichnium comunae*, *Palimmecopus* igen. n., *Palimmecopus praceursor* isp. n., *Pecoripeda gazella*, *Phacelopsus* igen. n., *Phacelopsus therates* isp. n., *Ptyariopus* igen. n., *Ptyariopus aichmanticheirus* isp. n., *Schromorphichnus* igen. n., *Schromorphichnus oxypages* isp. n., *Tetrastoibopus* igen. n., *Tetrastoibopus phoros*

isp. n., *Tricorynopus* igen. n., *Tricorynopus elaphrus* isp. n., *Trinaxopus* igen. n., *Trinaxopus hoplephoreus* isp. n., *Zanclonychopsus* igen. n., *Zanclonychopus cinicalcator* isp. n.
Sattler, U., Immenhauser, A., Hillgärtner, H. & Esteban, M. 2005. Characterization, lateral variability and lateral extent of discontinuity surfaces on a Carbonate Platform (Barremian to Lower Aptian, Oman). Sedimentology, 52(2): 339-361. # *Gastrochaenolites, Thalassinoides,* Cretaceous
Savary B., Olivero D. & Gaillard C. 2004. Calciturbidite dynamics and endobenthic colonization. Example from a Late Barremian (Early Cretaceous) succession of southeastern France. Palaeogeography, Palaeoclimatology, Palaeoecology, 2113-4): 221-239. # *Chondrites, Ophiomorpha, Planolites, Taenidium, Thalassinoides, Zoophycos,* turbidites, deep-sea, flysch
Savary, B., Olivero, D. & Gaillard, C. 2004. Calciturbidite dynamics and endobenthic colonization. Example from a Late Barremian (Early Cretaceous) succession of southeastern France. Palaeogeography, Palaeoclimatology, Palaeoecology, 211(3-4): 221-239. # *Chondrites, Ophiomorpha, Planolites, Taenidium, Thalassinoides, Zoophycos*
Savrda C.E. & Nanson L.L. 2003. Ichnology of fair-weather and storm deposits in an Upper Cretaceous estuary (Eutaw Formation, western Georgia, USA). Palaeogeography, Palaeoclimatology, Palaeoecology, 202: 67-83. # *Arenicolites, Asterosoma, Chondrites, Cruziana, Diplocraterion, Ophiomorpha, Palaeophycus, Planolites, Rosselia, Skolithos, Taenidium, Teichichnus, Terebellina, Thalassinoides,* Cretaceous, estuarine, tempestites, Alabama, USA
Savdra, C.E. & Uddin, A. 2005. Large *Macaronichnus* and their behavioral implications (Cretaceous Eutaw Formation, Alabama, USA). Ichnos, 12: 1-9. # *Conichnus, Dactyloidites, Macaronichnus*, *Ophiomorpha, Skolithos,* USA
Savdra, C.E., Counts, J., McCormick, O., Urash, R. & Williams, J. 2005. Log-grounds and *Teredolites* in transgressive deposits, Eocene Tallahatta Formation (southern Alabama, USA). Ichnos, 12: 47-57. # *Diopatrichnus, Gyrolithes, Ophiomorpha, Teredolites longissimus*, *Thalassinoides*
Savrda, C.E. 2005. Storm-bed ichnofabrics: Evaluating the role of allochthonous tracemakers. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 61. University of Auckland, Auckland. # *Ophiomorpha, Teichichnus,* Cretaceous, USA
Scasso, R.A. & Bellosi, E.S. 2004. Cenozoic continental and marine trace fossils at the Bryn Gwyn Paleontological Park, Chubut. Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Bryn Gwyn Guidebook, p. 1-19. # *Chubutolithes gaimanensis, Conichnus, Cylindrichnus, Gastrochaenolites, Ophiomorpha nodosa, Planolites, Polykladichnus, Taenidium barretti, Skolithos, Spongeliomorpha, Teisseirei barattinia, Glossifungites* ichnofacies, nonmarine, Tertiary, Paleocene, Eocene, Oligocene, Miocene
Scasso, R.A., Castro, L.N. & Fazio, A.M. 2004. Genetic relationship between bioturbation and phosphogenesis in shallow-marine environment. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 75. # *Callianassa, Chondrites, Conostichus, Cylindrichnus, Ophiomorpha, Planolites, Polykladichnus, Rosselia, Skolithos, Thalassinoides,* Lower Miocene, Argentina
Scasso, R.A., Kiessling, W., Aberhan, M., Medina, F.A. & Ruiz, L. 2004. Villains at the Cretaceous-Tertiary boundary in Neuquén Basin, Argentina. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 74-75. # *Planolites,* Paleocene
Schieber, J. 2002. The role of an organic slime matrix in the formation of pyritized burrow trails and pyrite concretions. Palaios, 17(1): 104-109. # Ordovician, Canada

Schlirf, M. 2004. *Spongeliomorpha, Ophiomorpha, Thalassinoides* – the battle rages on. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 75-76. # taxonomy

Schlirf, M. & Uchman, A. 2004. Revision of the ichnogenus *Sabellarifex* Richter and the value of ichnotaxobases in simple vertical trace fossils. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 76. # *Bergaueria, Conichnus, Monocraterion, Monocraterion tentaculatum, Polykladichnus, Sabellarifex eifliensis, Skolithos*

Schlirf, M. & Uchman, A. 2005. Revision of the ichnogenus *Sabellarifex* Richter, 1921 and its relationship to *Skolithos* Haldeman, 1840 and *Polykladichnus* Fürsich, 1981. Journal of Systematic Palaeontology, 3(2): 115-131. # *Arenicolites, Arenituba, Arborichnus, Diplocraterion, Monocraterion magnificum, Monocraterion tentaculatum, Micatuba, Polykladichnus irregularis, Polykladichnus aragonensis, Pragichnus fascis, Rosselia socialis, Sabellarites, Sabellarifex eifliensis, Sabellarifex molassica, Sabellarifex tassiliensis, Skolithos annulatus, Skolithos ingens, Skolithos linearis, Skolithos verticalis, Skolithos woodi, Tigillites dufrenoyi, Tigillites vertebralis, Arenicola, Ceriantheopsis americanus, Cerianthus, Heteromastus filiformis, Magelona, Scolecolepides,* recent, Miocene, Triassic, Devonian, Ordovician, Australia, France, Germany, Spain

Schmälzle, D. & Weber, B. 2002. *Gyrolithes polonicus* Fedonkin 1981 – ein selteneres Spurnfossil aus unterkambrischen Geschieben. Der Geschiebesammler, 35(3): 105-109. Wankendorf. # *Arenicolites spiralis, Spiroscolex spiralis, Glycera americana,* Cambrian, Germany, Sweden

Schmidt, G.A. & Pemberton, S.G. 2003. Stratigraphy and paleogeography of a conglomeratic shoreline: the Notikewin Member of the Spirit River Formation in the Wapiti area of west-central Alberta. Bulletin of Canadian Petroleum Geology, 51(40: 519-538. # *Arenicolites, Asterosoma, Conichnus, Cylindrichnus, Diplocraterion, Helminthopsis, Lockeia, Macaronichnus segregatis, Ophiomorpha, Palaeophycus, Planolites, Skolithos, Teichichnus, Scolicia, Thalassinoides,* Cretaceous, Canada

Schönberg, C.H.L. 2004. Dinoflagellate symbionts of bioeroding sponges. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 57. # *Cliona orientalis,* [*Entobia*], recent, Australia

Schönberg, C.H.L. 2004. How bioeroding sponges survive at Bathtub Beach, Florida. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 58. # sabellariid polychaetes, *Cliona annulifera, Pione lampa, Pione vastifica*

Schult, M.F. 1995. Comparisons between the Las Cruces ichnofauna and other Permian ichnofaunas, including inferred trackmakers. *In*: Lucas, S. G. & Heckert, A. B. (eds.), Early Permian Footprints and Facies, Albuquerque, 1995*,* Bulletin of the New Mexico Museum of Natural History and Science, 6: 127-134. # Sangre de Cristo Formation, Wescogame Formation, Hermit Shale, Coconino Sandstone, Rotliegend

Schult, M.F. 1995. Vertebrate trackways from the Robledo Mountains Member of the Hueco Formation, south-central New Mexico. *In*: Lucas, S.G. & Heckert, A.B. (eds.), Early Permian Footprints and Facies, Albuquerque, 1995*,* Bulletin of the New Mexico Museum of Natural History and Science, 6: 115-126. # edopoids, dissorophids, microsaurs, amphibians, reptiles, diadectids, anthracosaurs

Schuster, M., Duringer, P., Nel, A., Brunet, M., Vignaud, P. & Mackaye, H.T. 2000. Découvrte de termitières fossiles dans les sites à vertebres du Pliocène tchadien: description, identification et implications paléoécologiques. Comptes Rendus Academie des Sciences de Paris

(Sciences de la Terre et des Planètes), 331: 15-20. # [*Termitichnus*], insects, Pliocene, Chad
Schweitzer, C.E. & Feldmann, R.M. 2000. *Callichirus*? *symmetricus* (Decapoda, Thalassinoidea) and associated burrows, Eocene, Antarctica. *In* Stilwell, J.D. & Feldmann, R.M. (eds.), Paleobiology and paleoenvironments of Eocene rocks, McMurdo Sound, East Antarctica. Antarctic Research Series, 76: 335-347. # *Ophiopmorpha, Spongeliomorpha, Thalassinoides,* body fossils
Scott, J.J. & Renaut, R.W. 2004. Taphonomy of vertebrate traces around saline, alkaline and freshwater lakes. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 77. # Pleistocene-Recent, Kenya
Sedgwick, C.W. & Martin, A.J. 2004. Monitoring of urban beaver (*Castor canadensis*) through tracking methods, Atlanta, Georgia. Southeastern Ecology and Evolution Conference Abstracts, Georgia Tech University, Atlanta, Georgia, 1: 52.
Seilacher, A. & Gámez Vintaned, J. A. 1995. *Psammichnites gigas:* Ichnological expression of the Cambrian exposion. In: Chierchi, A. (ed.), Proceedings. Sixth Paleobethos International Symoposium. Alghero, 28-30 October 1995. Dipartimento di Scienze della Terra, Università di Caliagri, Caliagri, 151-152.
Seilacher, A. & Goldring, R. 1996. Class Psammocorallia (Coelenterata, Vendian-Ordovician): recognition, systematics and distribution. Geologiska Föreningens Förhandlingar, 118:207-216. # Astropolithon, *Brooksella cambria*, *Didymaulichnus, Nemiana, Protolyellia benderi, Protolyellia princeps, Protolyellia simplex, Spatangopsis costata, Spatangopsis mongolica, Spatangopsis scotica,* Precambrian, Cambrian, Mongolia, Namibia, Australia, Alabama, USA, Sweden
Seilacher, A. 1992. Dynamkic taphonomy: the process-related view of fossil-lagerstaetten. In: López, S.F., Conferencias de la Reunion de Taphonomia y Fisilizacion. Editorial Compulatse, Madrid, p. 109-125. # *Glossifungites,* Jurassic, Triassic, Germany
Seilacher, A. 1994. Early multicellular life: Late Proterozoic fossils and the Cambrian explosion. *In* Baltscheffsky, H., Bengtson, S., Bergström, J., Vidal, G. & Knoll, A. (eds.), Early Life on Earth. Columbia University Press, New York, p. 389-400. # *Bergaueria, Brooksella, Diplocraterion, Oldhamia, Skolithos, Syringomorpha, Teichichnus,* eophyton, Upper Precambrian, Cambrian
Seilacher, A. 2004. Principles of ichnostratigraphy. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 9-10. # *Arthrophycus, Cruziana, Cruziana acacensis, Daedalus, Oldhamia, Phycodes, Treptichnus pedum*
Seilacher, A., Buatois, L.A. & Mángano, M.G. 2005. Trace fossils in the Ediacaran–Cambrian transition: Behavioral diversification, ecological turnover and environmental shift. Palaeogeography, Palaeoclimatology, Palaeoecology, 227: 323-356. # *Archaeonassa, Aulichnites parkensis, Aulozoon, Bicavichnites, Cochlichnus anguineus, Curvolithus, Didymaulichnus miettensis, Diplopodichnus, Heliochone, Helminthoidichnites, Helminthopsis, Jinningichnus, Mawsonites sproggi, Multilaqueichnus, Nereites, Nenoxites curvus, Neonereites, Oldhamia, Oldhamia alata* isp. n.*, Oldhamia antiqua, Oldhamia curvata, Oldhamia fimbriata, Oldhamia geniculata* isp. n.*, Oldhamia flabellata, Oldhamia pinnata, Oldhamia radiata, Oldhamia recta* isp. n.*, Palaeophycus tubularis, Psammichnites, Psammichnites gigas, Psammichnites saltensis, Radulichnus*, *Scolicia, Sellaulichnus meschucunensis, Syringomorpha nilsoni, Taphrhelminthopsis, Taphrhelminthoida, Tasmanadia cachii, Torrowangea rossei, Treptichnus triplex, Treptichnus pedum,* chloephycus, kinneyia, pseudofossils, xenophyophores*,* microbal mats, Cambrian, Precambrian, Argentina, Russia, South Africa, Pakistan, Sweden, Libya, Arizona, USA, Canada

Seilacher, A., Grazdhankin, D. & Legouta, A. 2003. Ediacaran biota: teh dawn of animal life in the shadow of giant protists. Paleontological Research, 7 (1): 43-54. # *Aulozoon, Bergaueria, Intrites, Mawsonites, Neonereites, Radulichnus, Yelovichnus,* Precambrian, Sweden, Russia

Serpagli, E. 2005. First record of the ichnofossil *Atollites* from the Late Cretaceous of the Northern Apennines, Italy. Acta Palaeontologica Polonica, 50(2): 403-408. # *Asterichnus, Asterosoma, Atollites italicum* isp. n., *Gyrophyllites, Kirklandia,* deep-sea, flysch

Sharma, S., Jhala, Y. & Sawarkar, V. B. 2005. Identification of individual tigers (*Panthera tigris*) from their pugmarks. Journal of Zoology, London, 267: 9-18. # mammals

Shi, Zhen-sheng, Zhu, Xiao-min, Wang, Gui-wen, Zhong, Da-kang & Zhang, Xin-pei. 2005. Trace fossils of tidal flat Tataertage Formation (Silurian) in Central Tarim Basin. Acta Sedimentologica Sinica, 23(1): 91-99. [In Chinese, English abstract]. # *Arenicolites, Cochlichnus anguineus, Cylindrichnus, Diplocraterion parallelum, Macaronichnus segregatis, Ophiomorpha nodosa, Palaeophycus tubularis, Planolites beverleyensis, Skolithos linearis, Skolithos verticalis, Taenidium satanassi, Thalassinoides suevicus,* China

Shone, R.W. 1991. Trace fossils of the ?Early Ordovician Sardinia Bay Formation, Table Mountain Group. Annales of the South African Museum, 101(2): 9-25. # [?*Arenicolites*], *Chondrites, Cruziana, Diplocraterion, Fascifodina*, *Ophiomorpha, Planolites*, *Thalassinoides,* South Africa

Siggerud, E. I. H. & Steel, R. J. 1999. Architecture and trace-fossil characteristics of a 10,000-20,000 year, fluvial-to-marine sequence, SE Ebro Basin, Spain. Journal of Sedimentary Research, 69(2): 365-383. # *Ophiomorpha, Planolites*, *Scoyenia, Taenidium, Thalassinoides, Callianassa major*, borings, Pleistocene

Silva, R.C., Fernandes, A.C.S. & Sedor, F.A. 2003. Ocorrência de icnofósseis de invertebrados na Formação Irati (Permiano Superior da Bacia do Paraná, Brasil*).* Arquivos do Museu Nacional*,* Rio de Janeiro, 61(4): 261-266. # Paraná Basin, Irati Formation, ichnofossils, *Amaralia paulistana, Didymaulichnus lyelli,* Permian

Simo, V. 2005. Anizyjskie skamieniałości śladowe z formacji Vysoka. Przegląd Geologiczny, 55(10/1): 884. [In Polish]. # Triassic, Slovakia

Simon, T., Hagdorn, H., Hagdorn, M.K. & Seilacher, A. 2003. Swimming trace of a coelacanth fish from the Lower Keuper of south-west Germany. Palaeontology, 46(5): 911-926. # *Cylindricum, Parundichna schoelli* igen. n., isp. n., *Undichna,* Triassic

Simpson, E.L., Dilliard, K.A., Rowell, B.F. & Higgins, D. 2002. The fluvial-to-marine transition within the post-rift Lower Cambrian Hardyston Formation, Eastern Pennsylvania, USA. Sedimentary Geology, 147: 127-142. # *Skolithos linearis, Planolites*

Snelgrove, P.V.R. & Butman, C.A. 1994. Animal-sediment relationships revisited: cause versus effect. Oceanography & Marine Biology: An Annual Review, 32: 111-117. # grain size, organic content, amensalism, *Mercenaria, Owenia,* recent

Solan, M., Germano, J.D., Rhoads, D.C., Smith, C., Michaud, E., Parry, D., Wenzhöfer, F., Kennedy, B., Henriques, C., Battle, E., Carey, D., Iocco, L., Valente, R., Watson, J. & Rosenberg, R. 2003. Towards a greater understanding of pattern, scale and process in marine benthic systems: a picture is worth a thousand worms. Journal of Experimental Biology and Ecology, 285-286: 313-338. # general, benthic communities, geochemistry, methods, bioturbation, recent

Soler-Gijón, R. & Moratalla, J.J. 2001. Fish and tetrapod trace fossils from the Upper Carboniferous of Puertollano, Spain. Palaeogeography, Palaeoclimatology, Palaeoecology, 171: 1-28. # *Limnopus, Planolites, Puertollanopus microdactylus* igen. n., isp. n.*, Undichna bina, Undichna britannica, Undichna consulca, Undichna insolentia, Undichna radnicensis, Undichna simplicitas, Undichna unisulca,* xenacanth sharks, tetrapods, tidal environment, Carboniferous, *Amphibamus, Balanerpeton*, *Ginglymostoma, Hyloidichnus, Palaeosauropus, Scincosaurus, Scyliorhinus,* fish trails, trackways

Stanford, R., Weems, R.E. & Lockley, M.G. 2004. A new dinosaur ichnotaxon from the Lower Cretaceous Patuxent Formation of Maryland and Virginia. Ichnos, 11(3-4): 251–259. # *Hypsiloichnus* igen. n., *Hypsiloichnus marylandicus* isp. n., tracks, footprints, reptiles, USA

Stiller, F. 2005. An Early Jurassic *Talpina*-dominated assemblage of borings in bivalve shells from southern Hunan, China, with remarks on the ichnogenus *Talpina* Hagenow, 1840. Acta Palaeontologica Sinica, 44(3): 396-411. # *Bascomella, Calcideletrix, Clionolithes canna, Conchotrema, Conchotrema canna, Cosmetodon, Graysonia, Rogerella, Talpina annulata, Talpina bromleyi, Talpina eduliformis, Talpina gruberi, Talpina hirsuta, Talpina hunanesis* isp. n., *Torastarte,* Mycelites*,* Phoronida, borings, ichnofossils, bioerosion, Early Jurassic, Hunan, southern China

Sutcliffe, O.E., Briggs, D.E.G. & Bartels, C. 1999. Ichnological evidence for the environmental setting of the Fossil-Lagerstätten in the Devonian Hunsrück Slate, Germany. Geology, 27(3): 275-278. # *Allocotichnus, Arcichnus, Chondrites, Ctenopholeus, Heliochone, Merostomichnites, Monomorphichnus, Palaeophycus, Petalichnus, Protovirgularia, Pteridichnites, Scolicia*, *Undichna,* turbidites, oxygenation

Takahashi, K. & Okamura, Y. 2004. Neogene and Pleistocene footprint fossils of Japan, with special reference to footprints from Plio-Pleistocene Kobiwako Group, central Japan. In: Kim, J.Y., Kim, K.-S., Park, S.I. & Shin, M.-K. (eds.), Proceedings of International Symposium on the Quaternary Footprints of Hominids and Other Vertebrates. Namjejigun, p. 84-93. # mammals, birds, reptiles, Pliocene, Pleistocene

Takakura, J. 2004. Overview of the Late Pleistocene archaeology and vertebrate evidence in northern. In: Kim, J.Y., Kim, K.-S., Park, S.I. & Shin, M.-K. (Eds.), Proceedings of International Symposium on the Quaternary Footprints of Hominids and Other Vertebrates. Namjejigun, p. 111.

Tapanila, L. 2004. From topsy-turvy *Topsentopsis* to the oldest *Entobia*, examples from the Alamo Impact Breccia, Nevada, U.S.A. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 59. # *Topsentopsis devonica,* Devonian, USA

Tapanila, L. 2004. Holey crap! Pholad *Gastrochaenolites* in phosphatic coprolites and bone, Cretaceous-Paleogene, NW Africa. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 60. # *Gastrochaenolites ornatus,* Eocene, Mali

Tapanila, L., Copper, P. & Edinger, E. 2004. Environmental and substrate control on Paleozoic bioerosion in corals and stromatoporoids, Anticosti Island, eastern Canada. Palaios, 19: 292-306. # *Trypanites,* Ordovician-Silurian boundary

Tapanila, L., Roberts, E.M., Bouaré, M.L., Sissoko, F. & O'Leary, M. 2004. Bivalve borings in phosphatic coprolites and bone, Cretaceous-Paleogene, Northeastern Mali. Palaios, 19: 565-573. # *Gastrochaenolites ornatus,* Martesiinae, Mali, Africa

Tarlao, A., Tunis, G. & Venturini, S. 2005. Dropstones, pseudoplanktonic forms and deep-water decapod crustaceans within a Lutetian condensed succession of central Istria (Croatia): relation to palaeoenvironmental evolution and palaeogeography. Palaeogeography, Palaeoclimatology, Palaeoecology, 218: 325-345. # *Chondrites intricatus, Planolites, Ophiomorpha,* [*Teredolites*], *Zoophycos*, Eocene

Taylor, P. & Zágorsek, K. 2004. Probably predatory borings in the larval brood chamber of an Upper Cretaceous cyclostome bryozoan from the Bohemian Basin. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 70-71. # Czech Republic

Tchoumatchenco, P. & Uchman, A. 2005. Upper Triassic-Middle Jurassic ichnofossils from the East

Stara Planina Mts., eastern Bulgaria. In: Csiki, Z. & Lazăr, I. (eds.), The Fifth Romanian Symposium on Paleontology Dedicated to Centennial of the Laboratory of Paleontology, University of Bucharest, 15-17 September, 2005, Abstract Volume. Romanian Society of Paleontologists, University of Bucharest, Department of Geology and Paleontology, Bucharest, p. 49-50. #. *Arthrophycus strictus, Chondrites targionii, Circulichnis montanus, Cochlichnus anguineus, Desmograpton pamiricus, Glockerichnus, Gordia marina, Halopoa annulata, Megagrapton submontanum, Nereites missouriensis, Palaeophycus serratus, Palaeophycus tubularis, Paleodictyon hexagonum, Paleodictyon* (*Glenodictyon*) *petaloideum, Planolites beverleyensis, Saerichnites abruptus, Thalassinoides, Zoophycos brianteus*

Thulborn, T. 2004. Extramorphological features of sauropod dinosaur tracks in the Uhangri Formation (Cretaceous), Korea. Ichnos, 11(3-4): 295–298. # footprint, tetrapod

Titschack, J., Bromley, R.G. & Freiwald, A. 2005. Plio-Pleistocene cliff-bound, wedge shaped, warm temperate carbonate deposits on Rhodes (Greece): sedimentology and facies. Sedimentary Geology, 180: 29-56.

Tobin, R.J. 2004. Ichnology of a late Pleistocene ichnofabric, Nebraska, USA. Palaeogeography, Palaeoclimatology, Palaeoecology, 215: 111-123. # *Daemonelix, Citellus, Cynomys, Geomys, Spermophilus, Taxidea, Thomomys,* bioturbation, loess, ichnofabric

Tognoli, F.M.W. & Netto, R.G. 2003. Ichnological signature of Paleozoic estuarine deposits from the Rio Bonito-Palermo succession, eastern Paraná basin, Brazil. Asociación Paleontológica Argentina, Publicación Especial, 9: 141-155. # *Chondrites, Ophiomorpha, Palaeophycus, Planolites, Skolithos, Teichichnus, Thalassinoides,* Permian, Brazil

Tognoli, F.M.W. & Netto, R.G. 2004. Paleoecological controls on the distribution of trace fossils in estuarine and marine deposits of the Siderópolis-Palermo sequence, Paraná Basin, Brazil. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 77-78. # *Asterosoma, Bergaueria, Cylindrichnus, Conostichus, Diplocraterion, Helminthopsis, Monocraterion, Ophiomorpha, Palaeophycus, Phycosiphon, Planolites, Rhizocorallium, Rosselia, Siphonichnus, Skolithos, Teichichnus, Thalassinoides,* Lower Permian

Tognoli, F.M.W. & Netto, R.N. 2004. Bioturbated estuarine and shallow-marine reservoir-quality sandstones in the Rio Bonito and Palermo Formations, Paraná Basin, Brazil. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 78. # *Arenicolites, Cylindrichnus, Diplocraterion, Helminthopsis, Ophiomorpha, Palaeophycus, Planolites, Rhizocorallium, Rosselia, Skolithos, Thalassinoides, Teichichnus,* Permian

Tonkin, N., Gregory, M.R. & Campbell, K.A. 2004. Ichnofabrics, event beds and paleoenvironmental interpretations: upper Miocene-lower Pliocene, Te Araroa to East Cape, North Island, New Zealand. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 79. # *Asterosoma, Chondrites, Cruziana, Glossifungites, Phycosiphon, Scolicia, Teichichnus, Thalassinoides, Zoophycos*

Tonkin, N., Gregory, M.R. & Campbell, K.A. 2005. Ichnofabrics and event stratigraphy: Late Miocene - East Cape to Te Araraoa , North Island, New Zealand. In: 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Field Guides, p. 34-48. University of Auckland, Auckland. # *Anconichnus, Asterosoma, Bathichnus paramoudrae, Cardioichnus, Diplocraterion, Glossifungites, Gyrolithes, Helicodromites, Imbrichnus, Laminites, Phycodes, Piscichnus, Planolites, Radionereites, Scalarituba, Schaubcylindrichnus, Scolicia, Skolithos, Teichichnus, Terebellina, Tigillites, Zoophycos,* ash layers

Tunis, G. & Uchman, A. 2004. Trace fossils from the Brkini Flysch (Eocene), south-western Slovenia. Gortania, 25 (for 2003): 31-45. Udine. # *Cosmorhaphe, Helminthopsis, Lorenzinia,*

Megagrapton submontanum, Ophiomorpha annulata, Ophiomorpha rudis, Paleodictyon arvense, Paleodictyon goetzingeri, Paleodictyon maximum, Phycosiphon incertum, Planolites, Protopaleodictyon, Scolicia strozzii, Urohelminthoida, Zoophycos

Turek, V., Mikuláš, R. & Libertín, M. 2005. Nové ichnofosilie z fluviálních svrchnokarbonských sedimentů vnitrosudetské pánve. In 6. paleontologický seminář - Sborník příspěvků. Olomouc, Univerzita Palackého, 59-60.

Tuttle, R. 2004. Footprint clues in forensics and hominid evolution: limitations and lesson. In: Kim, J.Y., Kim, K.-S., Park, S.I. & Shin, M.-K. (Eds.), Proceedings of International Symposium on the Quaternary Footprints of Hominids and Other Vertebrates. Namjejigun, p. 44-53. # hominids, Laetoli, Pliocene, Tanzania

Twitchett, R.J. & Barras, C.G. 2004. Trace fossils in the aftermath of mass extinction events. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 397-419. # *Diplocraterion, Palaeophycus, Planolites, Rhizocorallium, Skolithos, Thalassinoides*, Ordovician, Silurian, Permian, Triassic, Jurassic, Cretaceous, Nevada, USA, England, Italy, Austria, general

Uchman, A. 1999. Ichnology of the Rhenodanubian Flysch (Lower Cretaceous-Eocene) in Austria and Germany. Beringeria, 25: 65-171. # *Alcyonidiopsis bavaricus* n. isp., *Alcyonidiopsis longobardiae*, *Arthrophycus tenuis*, *Caulerpa filiformis*, *Chondrites intricatus*, *Chondrites stellaris* n. isp., *Phymatoderma penicillum* n. isp., *Pilichnus dichotomus* igen. n., isp. n., *Palaeophycus tubularis*, *Palaeophycus heberti*, *Planolites beverleyensis*, *Planolites montanus*, *Halymenidium lumbricoides*, *Granularia lumbricoides*, *Halopoa imbricata*, *Chondrites aequalis*, *Chondrites furcatus*, *Phycopsis arbuscula*, *Phycopsis intricata*, *Chondrites targionii*, *Muensteria flagellaris*, *Chondrites inclinatus, Chondrites affinis, Chondrites recurvus*, *Chondrites patulus, Chondrites caespitosus*, *Sphaerococcites caespitosus*, *Spaerococcites carpathicus*, *Trichichnus linearis*, *Ophiomorpha nodosa, Ophiomorpha annulata*, *Ophiomorpha recta, Halymenites rectus, Granularia arcuata, Thalassinoides suevicus*, *Halimeda Fuggeri, Halimedides Fuggeri, Hormosiroidea florentina*, *Halimedides annulata*, *Rhabdoglyphus grossheimi*, *Capodistria vettersi*, *Dendrorhaphe haentzscheli*, *Chondrorhaphe bifida*, *Cladichnus fischeri*, *Muensteria annulata*, *Caulerpa annulata*, *Taenidium helveticum, Keckia fischeri*, *Phymatoderma alcicorne*, *Zoophycos brianteus, Taonurus flabelliformis*, *Zoophycos insignis*, *Spirophyton*, *Phycosiphon incertum*, *Palaeodictyon singulare*, *Phycosiphon geniculatum*, *Muensteria geniculata*, *Caulerpites candelabrum*, *Hydrancylus geniculatus*, *Phycosiphon hamatum*, *Münsteria hamata*, *Criophycus ramosus*, *Lophoctenium ramosum*, *Caulerpites pyramidalis*, *Polykampton eseri*, *Caulerpa eseri*, *Caulerpites eseri*, *Sphaerococcites pinnatifidus*, *Teichichnus*, *Trichichnus appendicus* n. isp., *Spirorhaphe involuta*, *Rotundusichnium zumayense, Yacutatia emersoni, Nereites irregularis, Helminthoida irregularis, Helminthoida crassa, Helminthoida labyrinthica, Scolicia prisca*, *Nemertilites mäandrinus*, *Nemertilites strozzi*, *Subphyllochorda*, *Palaeobullia*, *Scolicia plana*, *Taenidium diesingi*, *Taenidium satanassi*, *Cosmorhaphe gracilis*, *Cosmorhaphe lobata*, *Cosmorhaphe carpathica, Helminthoida helminthopsoidea*, *Helicolithus sampelayoi*, *Helminthopsis*, *Protopaleodictyon*, *Megagrapton submontanum*, *Paleodictyon* (*Glenodictyum*) *strozzii*, *Pleurodictyon, Paleodictyon meneghini, Paleodictyon* (*Ramidictyon*) *nodosum*, *Paleodictyon* (*Glenodictyum*) *miocenicum, Acanthorhaphe delicatula*, *Belorhape zickzack*, *Gyrophyllites kastneri*, *Gyrophyllites petteri, Gyrophyllites doblhoffi, Helminthorhaphe flexuosa*, *Protovirgularia*, *Pinsdorfichnus abeli*, *Ceratophycus bicornis*, *Cylindrites convolutus, Spirophycus bucornis*, Cretaceous, Paleocene, Eocene, Austria, Germany

Uchman, A. 2004. Głębokomorskie skamieniałości śladowe i ich zmiany ewolucyjne. Polskie Towarzystwo Geologiczne, Uniwersytet imieniem Adama Mickiewicza, Streszczenia Referatów, 13: 24-36. Poznań. [In Polish]. # general, eveolutionary changes, ichnology

Uchman, A. 2004. Ichnologia jako źródło informacji o paleośrodowisku wybranych ogniw litostratygraficznych. In: Dziadzio, P. & Uchman, A. (eds.), Poszukiwanie Węglowodorów jako Źródło Postępu w Rozpoznaniu Budowy Geologicznej Karpat, Zapadliska Przedkarpackiego i ich Podłoża, LXXV Zjazd Naukowy Polskiego Towarzystwa Geologicznego, Iwonicz Zdrój, 22-25 września 2004 r. Państwowy Instytut Geologiczny, Jasło, Kraków, p. 46-54. Kraków [In Polish]. # *Alcyonidiopsis, Chondrites, Helminthopsis, Ophiomorpha rudis, Phycosiphon incertum, Planolites, Protovirgularia obliterata, Rotundusichnium, Scolicia, Subphyllochorda, Taenidium, Taphrhelminthoida, Taphrhelminthopsis, Teichichnus, Thalassinoides, Trichichnus, Zoophycos,* flysch, Cretaceous, Paleocene, Eocene, Poland

Uchman, A. 2004. Ichnosubfacja *Ophiomorpha rudis* ichnofacji *Nereites*. In: Kędzierski, M., Leszczyński, S. & Uchman, A. (eds.), Geologia Tatr: Ponadregionalny Kontekst Sedymentologiczny, Polska Konferencja Sedymentologiczna, VIII Krajowe Spotkanie Sedymentologów, Zakopane, 21-24.06.2004 r. Polskie Towarzystwo Geologiczne, Kraków, p. 126. # *Cosmorhaphe, Helminthorhaphe, Megagrapton, Nereites, Ophiomorpha annulata, Ophiomorpha rudis, Paleodictyon, Phycosiphon, Scolicia, Urohelminthoida,* flysch

Uchman, A. 2004. Phanerozoic history of deep-sea trace fossils. In: McIlroy, D. (ed.), The Application of Ichnology to Palaeoenvironmental and Stratigraphic Analysis. Geological Society of London, Special Publication, 228: 125-141. # *Cladichnus fischeri, Chondrites intricatus, Desmograpton pamiricus, Dictyodora scotica, Dictyodora silurica, Dictyodora simplex, Dictyodora tenuis, Dictyodora zimmermanni, Dictyodora liebeana, Glockerichnus alata, Helminthorhaphe flexuosa, Nereites irregularis, Ophiomorpha rudis, Phycosiphon incertum, Rotundusichnium zumayensis, Scolicia,* diversity, events, crises, stratigraphy, glaciations, extinctions, Triassic, Jurassic, Cretaceous, Paleocene, Eocene, Austria, Germany, Italy, Poland, Ukraine

Uchman, A. 2004. The *Ophiomorpha rudis* ichnosubfacies of the *Nereites* ichnofacies. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 79-80. # *Ophiomorpha nodosa, Ophiomorpha annulata, Paleodictyon, Scolicia,* Tithonian, Jurassic, Cretaceous, Paleogene, ichnofacies, ichnosubfacies

Uchman, A. 2004. Trace fossil assemblages from the Lower Cretaceous dark flysch deposits of the Silesian Unit, Carpathians, Poland. Fossils and Strata, 51: 39-57. # *Arthrophycus strictus, Arthrophycus tenuis, Belorhaphe zickzack, Buthotrephis succulens, Chondrites aequalis, Chondrites furcatus, Chondrites intricatus, Chondrites targionii, Gordia, Helminthopsis abeli, Helminthopsis hieroglyphica, Helminthopsis tenuis, Lorenzinia plana, Megagrapton, Paleodictyon strozzii, Phycodes bilix, Phycosiphon incertum, Planolites, Protovirgularia, Protovirgularia obliterata, Protovirgularia pennata, Sabularia rudis, Scolicia plana, Scolicia strozzii, Sublorenzinia plana, Taenidium, Taphrhelminthopsis vagans, Thalassinoides, Trichichnus,* oxygenation, anoxic events

Uchman, A. 2005. Skamieniałości śladowe w utworach kredy i paleogenu na terenie Gorców i obszarów przyległych. In: Wartości, Problemy, Rola Społeczna i Przyszłość Parków Narodowych w Polsce, Poręba Wielka, 15-17.09.2005. Gorczański Park Narodowy, Poręba Wielka, p. 20. [In Polish, Abstract book]. # *Chondrites intricatus, Desmograpton, Diplocraterion, Helminthoida labyrinthica, Helminthorhaphe, Megagrapton, Nereites irregularis, Ophiomorpha annulata, Ophiomorpha rudis, Paleodictyon, Phycosiphon incertum, Sabularia simplex, Spirorhaphe,* Cretaceous, Paleocene, Eocene, Oligocene

Uchman, A., 2005. Late Mesozoic revolution in the deep-sea: invasion of large crustaceans and echinoids as evidenced by *Ophiomorpha* and *Scolicia* from flysch deposits. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 62. University of Auckland, Auckland. # *Nereites, Ophiomorpha annulata, Ophiomorpha rudis, Scolicia, Thalassinoides,* Cretaceous, Eocene, Oligocene

Uchman, A., 2005. *Treptichnus*-like traces made by insect larvae (Diptera: Chironomidae, Tipulidae). In: Buta, R.J., Rindsberg, A.K., Kopaska-Merkel, D.C. (eds.), Pennsylvanian Footprints in the Black Warrior Basin of Alabama. Alabama Paleontological Society Monograph, 1: 143-146. Birmingham, Alabama. #*Treptichnus bifurcus, Tipula*

Uchman, A., Abbassi, N. & Naeeji, M. 2005. *Persichnus* igen. nov. and associated ichnofossils from the Upper Cretaceous to Eocene deep-sea deposits of the Sanandaj Area, West Iran. Ichnos, 12(2): 141–149. # *Cosmorhaphe lobata, Paleodictyon majus, Persichnus dodecimanus* isp. n., *Planolites beverleyensis, Scolicia strozzii, Spirophycus bicornis, Squamodictyon, Treptichnus*

Uchman, A. & Bromley, R.[G.] 2003. Beachrock ichnofabrics of Roman age from Rhodes, Greece. 7th International Ichnofabric Workshop, Basel, Switzerland 14-16 July 2003, Abstracts, p. 55.

Uchman, A. & Bromley, R.[G.] 2003. Ichnofabrics of Lower-Middle Jurassic marginal marine deposits of the Sorthat Formation, Bornholm, Denmark. 7th International Ichnofabric Workshop, Basel, Switzerland 14-16 July 2003, Abstracts, p. 56.

Uchman, A., Bubík, M. & Mikuláš, R. 2005. The ichnological record across the Cretaceous/Tertiary boundary in turbiditic sediments at Uzgruň (Moravia, Czech Republic). Geologica Carpathica, 56(1): 57-65. # *Arthrophycus tenuis, Chondrites intricatus, Chondrites targionii, Nereites irregularis, Ophiomorpha annulata, Ophiomorpha rudis, Palaeophycus tubularis, Planolites, Phycosiphon incertum, Rotundusichnium zumayense, Taenidium, Thalassinoides, Trichichnus, Zoophycos,* Paleocene, flysch

Uchman, A., Drygant, D., Paszkowski, M., Porębski, S.J. & Turnau, E. 2004. Early Devonian trace fossils from marine to non-marine redbeds in Podolia, Ukraine: palaeoenvironmental context and implications. Palaeogeography, Palaeoclimatology, Palaeoecology, 214: 67-83. # *Lockeia siliquaria, Monomorphichnus podolicus* isp. n., *Rusophycus, Skolithos linearis, Spirophyton, Teichichnus,* marginal marine

Uchman, A., Hanken, N.-M. & Binns, R. 2005. Ordovician bathyal trace fossils from metasiliciclastics in Central Norway and their sedimentological and paleogeographical implications. Ichnos, 12(2): 105–133. # *Planolites*, *Palaeophycus, Chondrites*, *Phycodes*, *Alcyonidiopsis*, *Protovirgularia dichotoma*, *Gordia*, *Helminthoidichnites tenuis*, *Helminthopsis*, *Naviculichnium marginatum*, *Dictyodora tenuis, Dictyodora zimmermani*, *Nereites missouriensis*, *Trichophycus*, *Treptichnus*, *Saerichnites variolatus, Megagrapton irregulare, Megagrapton submontanum, Paleodictyon petaloideum, Squamodictyon,* deep-water, flysch

Uchman, A., Janbu, N. E. & Nemec, W., 2004. Trace fossils in the Cretaceous–Eocene flysch of the Sinop-Boyabat Basin, Central Pontides, Turkey. Annales Societatis Geologorum Poloniae, 74: 197-235. # *Alcyonidiopsis, Arthrophycus tenuis, Chondrites intricatus, Chondrites targionii, Halimedides annulata, Halopoa imbricata, Planolites, Pilichnus dichotomus, Trichichnus linearis, Ophiomorpha nodosa, Ophiomorpha annulata, Ophiomorpha rudis, Thalassinoides suevicus, Lorenzinia apenninica, Lophoctenium minimum, Phycodes, Phycosiphon incertum, Phymatoderma, Zoophycos, Gordia, Cosmorhaphe lobata, Helicolithus sampelayoi, Helicolithus ramosus, Helminthopsis, Helminthorhaphe flexuosa, Helminthorhaphe japonica, Nereites irregularis, Protovirgularia, Scolicia prisca, Scolicia vertebralis, Scolicia strozzii, Spirorhaphe involuta, Gyrolithes, Acanthorhaphe delicatula, Belocosmorhaphe aculeata, Belorhaphe zickzack, Desmograpton dertonensis, Ubinia wassoevitschi, Urohelminthoida appendiculata, Protopaleodictyon incompositum, Megagrapton irregulare, Megagrapton submontanum, Paleodictyon latum, Paleodictyon strozzii, Paleodictyon maximum, Paleodictyon delicatulum, Paleodictyon majus, Squamodictyon tectiforme,* Paleocene

Uchman, A. & Krenmayr, H.G. 2004. Trace fossils, ichnofabrics and sedimentary facies in the shallow marine Lower Miocene molasse of Upper Austria. Jahrbuch der Geologischen Bundesanstalt, 144(2): 233-251. # *Alcyonidiopsis*, *Ancorichnus*, *Arenicolites*, *Beaconites,*

Bichordites monastiriensis, *Cylindrichnus concentricus*, *Macaronichnus segregatis, Ophiomorpha annulata*, *Ophiomorpha nodosa*, *Planolites beverleyensis*, *Rosselia socialis, Scolicia, Skolithos, Teichichnus*, *Thalassinoides*

Uchman, A., Malata, E., Olszewska, B. & Oszczypko, N. 2006. Paleobatymetria basenów Karpat Zewnętrznych (Palaeobatymetry of the Outer Carpathian Basins). In: Oszczypko, N., Uchman, A. & Malata, E. (eds), Rozwój Paleotektoniczny Basenów Karpat Zewnętrznych i Pienińskiego Pasa Skałkowego. Instytut Nauk Geologicznych Uniwersytetu Jagiellońskiego, Kraków, p. 85-102. [In Polish, English abstract] # *Ophiomorpha rudis*, ichnofacies, bathymetry, Carpathians, Poland

Uchman, A., Pika Biolzi, M. & Hochuli, P.A. 2004. Oligocene trace fossils from temporary fluvial plain ponds: an example from the Freshwater Molasse of Switzerland. Eclogae Geologicae Helvetiae, 80: 133-148. # *Cochlichnus anguineus, Diplichnites gouldi, Helminthoidichnites, Planolites, Treptichnus pollardi, Pecoripeda* (*Ovipeda*), footprints, mammals, vertebrates

Uchman, A. & Rindsberg, A.K. 2004. Bibliographia Ichnologica 2003, with complementary data for 1990 to 2002. Ichnology Newsletter, 26: 82-127.

Valais, S. de, 2004. Ichnotaxonomy of avian-like footprints from the Santo Domingo Formation (Late Triassic), Northwest Argentina. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 31. # *Gruipeda*

Valais, S. de, Melchor, R.N. & Genise, J.F. 2003. *Hexapodichnus casamiquelai* isp. nov.: an insect trackway from the La Matilde Formation (Middle Jurassic), Santa Cruz, Argentina. Asociación Paleontológica Argentina, Publicación Especial, 9: 35-41. # *Hexapodichnus casamiquelai* isp. n., *Ameginichnus patagonicus*

Vaughn, C.C. & Hakenkamp, C.C. 2001. The functional role of burrowing bivalves in freshwater ecosystems. Freshwater Biology, 46(11): 1431-1446. # Unionidae, *Corbicula,* bioturbation

Verde, M. 2003. The significance of a densely bored surface at the top of the Camacho Formation (Late Miocene) of Uruguay. Asociación Paleontológica Argentina, Publicación Especial, 9: 169-175. # *Entobia, Gastrochaenolites lapidicus, Gastrochaenolites ornatus, Gastrochaenolites torpedo, Gastrochaenolites turbinatus,* bioerosion, hardground

Verde, M. & Martínez, S. 2004. A new ichnogenus for crustacean trace fossils from the Upper Miocene Camacho Formation of Uruguay. Palaeontology, 47(1): 39-49. # *Maiakarichnus currani* igen. isp. n., *Ophiomorpha, Thalassinoides*

Verde, M. 2004. Compound forms of thalassinidean trace fossils and tiny burrows: probable hatching or recruiting structures. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 80-81. # *Ardelia socialia, Maiakarichnus currani, Ophiomorpha, Thalassinoides, Callianassa kraussi, Upogebia affinis,* Permian, Miocene, Pleistocene, Uruguay, USA

Verde, M. 2004. Ichnology of the Camacho Formation (Late Miocene) of Uruguay. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 80. # *Chondrites, Chondrites-Teichichnus, Conchotrema, Cruziana, Entobia, Gastrochaenolites, Gastrochaenolites-Maeandropolydora, Leptichnus, Maiakarichnus, Oichnus, Pennatichnus, Pinaceocladichnus, Psilonichnus, Psilonichnus upsilon, Rhizocorallium, Skolithos, Teredolites, Teredolites longissimus, Thalassinoides-Ophiomorpha, Tibikoia*

Verde, M., Genise, J.F., Ubilla, M. & Jiménez, J.J. 2004. Earthworm aestivation chambers in the Sopas Formation (Late Pleistocene), Uruguay. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 81. # *Edaphichnium lumbricatum, Taenidium*

Virtasalo, J., Kotilainen, A. & Gingras, M. 2004. Tracking environmental change in an uplifting archipelago area - neoichnological results from the northern Baltic Sea. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 81-82. # *Anconichnus, Arenicolites, Lockeia, Planolites, Rhizocorallium, Thalassinoides,* Quaternary

Vizcaïno, D., Álvaro, J.J. & Monceret, E. 2004. Trilobites and ihnofossils from a new fossil Lagerstätte in the Lower Cambrian Pardailhan Formation, southern Montagne Noire, France. Geobios, 37: 277-286. # *Astropolichnus hispanicus, Tomaculum problematicum,* arthropod appendages

Vodrážka, R. 2004. *Entobia exogyrarum* (Frič, 1883) from the Upper Cretaceous of the Bohemian Cretaceous Basin. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 61-62. # *Entobia cretacea, Gastrochaenolites*, Czech Republic

Vodrážka, R., Mikuláš, R. & Čech, S. 2004. Fosilní stopy a ichnostavba glaukonitických pískovců svrchní křídy u Vamberka (východní Čechy). Zprávy o geologických výzkumech v roce 2003: 96-97. Praha.

Vogel, K. & Glaub, I. 2004. Endolithic organisms as “living fossils”? The stratigraphic record of microborings. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 63. # general

Vogel, K. & Glaub, I. 2004. 450 Millionen Jahre Beständigkeit in der Evolution endolithischer Mikroorganismen? Sitzungsberichte der Wissenschlaftliche Gesellschaft an der J.W. Goethe-Universität, 42: 1-42. Frankfurt am Main.

Vogel, K. & Marincovich, L., Jr. 2004. Palaeobathymetric implications of microborings in Tertiary strata of Alaska, USA. Palaeogeography, Palaeoclimatology, Palaeoecology, 206: 1-20.

Voigt, S. & Haubold, H. 2004. Tracks and trackmakers correlated – *Ichniotherium* Pohlig, 1892: an example of the importance of tetrapod ichnology. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 83. # *Ichniotherium cottae, Ichniochterium sphaerodactylum, Diadectes, Orobates,* Carboniferous-Permian, Germany, USA

Voigt, S. 2004. *Pholeus*-like burrows in Permocarboniferous floodplain deposits: a new element of the *Scoyenia* ichnofacies? In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 82. # Germany

Vršanský, P. 2003. Unique assemblage of Dictyoptera (Insecta – Blattaria, Mandotea, Isoptera) from the Lower Cretaceous of Bon Tsagaan Nuur in Mongolia. Entomological Problems, 33(1-2): 119-151. # coprolites

Walker, S.E., Holland, S.M. & Gardiner, L. 2003. *Coenobichnus currani* (new ichnogenus and ichnospecies): fossil trackway of a land hermit crab, early Holocene, San Salvador, Bahamas. Journal of Paleontology, 77(3): 576-582. # *Coenobichnus currani* igen. n., isp. n., Quaternary

Webby, B.D., Mángano, M.G. & Buatois, L.A. (Eds.) 2004. Trace Fossils in evolutionary palaeoecology. Fossils & Strata, 51: 153 p.

Weber, B. & Braddy, S. 2004. A marginal marine ichnofauna from the Blaiklock Glacier Group (?Lower Ordovician) of the Shackleton Range, Antarctica. Transactions of the Royal Society of Edinburgh-Earth Sciences, 94(1): 1-20. # *Asaphodichnus, Beaconites, Didymaulichnus, Diplichnites, Gordia, Laevicyclus, Meriostomichnites gracilis* isp. n., *Monomorphichnus, Palaeophycus, Planolites, Rusophycus, Selenichnites antarcticus* isp. n., *Taphrhelminthoides antarcticus* igen. n. isp. n.

Wetzel, A. & Allia, V. 2003. Der Opalinuston in der Nrodschweiz: Lithologie und Ablagerungsgeschichte. Eclogae Geologicae Helvetiae, 96: 451-469. # *Thalassinoides*, tempestites, concretions, Jurassic, Switzerland

Wetzel, A. & Reisdorf, A. 2004. Ichnofabrics elucidate entombing and burial history of an ichtyosaur skull. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 84. # *Palaeophycus, Planolites, Thalassinoides, Chondrites*

Wetzel, A. & Reisdorf, A.G., 2005. Ichnofabrics elucidate entombing and burial history of a vertically embedded ichthyosaur skull. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 64. University of Auckland, Auckland. # *Chondrites, Leptonectes, Palaeophycus, Planolites, Thalassinoides*

Wetzel, A. 2004. Ichnofabrics in modern sediments of the South China Sea: effects of regional upwelling ash fall, and turbidite deposition. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 83-84. # *Nereites, Nereites missouriensis, Scolicia, Thalassinoides-Teichichnus*

Wetzel, A., 2005. Ichnofabrics in concretions, or: What has been lost during diagenesis. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 63. University of Auckland, Auckland. # *Asterosoma, Chondrites, Diplocraterion, Palaeophycus, Phycosiphon, Planolites, Rhizocorallium, Skolithos, Teichichnus, Thalassinoides*, mudrocks, Liassic, Switzerland, calcarenites, Jurassic, western Europe

White, C.R. 2005. The allometry of burrow geometry. Journal of Zoology, 265, 395-403. # methods

Whyte, M.A. 2005. A gigantic fossil arthropod trackway. Naturte, 438: 576. # *Palmichnium*, Euryptera, Carboniferous, UK, Great Britain

Wignall, P.B. & Best, J.L. 2004. Sedimentology and kinematics of a large, retrogressive growth-fault system in Upper carboniferous deltaic sediments, western Ireland. Sedimentology, 51: 1343-1358. # *Arenicolites, Helminthoidea,Lockeia, Scolicia*

Wignall, P.B. & Newton, R. 2003. Contrasting deep-water records from the Upper Permian and Lower Triassic of south Tibet and British Columbia: evidence for a diachronous mass extinction. Palaios, 18(2): 153-167. # *Diplocraterion, Planolites, Teichichnus,* Canada, China

Wignall, P.B. & Pickering, K.T. 1993. Palaeoecology and sedimentology across a Jurassic fault scarp, NE Scotland. Journal of the Geological Society of London, 150: 323-340. # *Solemya,* bivalves, *Chondrites, Monocraterion, Planolites, Rhizocorallium, Skolithos,* UK

Wilmsen, M. 2005. Stratigraphy and biofacies of the Lower Aptian of Cuchía (Cantabria, northern Spain). Journal of Iberian Geology, 31(2): 253-275. # *Ophiomorpha nodosa, Rhizocorallium, Scoyenia, Thalassinoides, Zoophycos*

Wilson, H.M. 2003. Walking with Millepedes: Kinematics of locomotion in *Polyxenus* and implications for reconstructing the functional morphology of the Palaeozoic millepede *Arthopleura*. Palaeontological Association, 46th Annual Meeting, Department of Ewarth Sciences, University of Cambridge, December 15-18, 2002. # *Diplichnites*

Wilson, L. 2005. Paleoparasitology. Ichnos, 12: 91-92. # book review, Gonçalves de Arujo, A.J., Ferreira, L.F., Boucher, F., Reinhard, K.

Wilson, M.A. & Palmer, T.J. 2004. Patterns and processes in the Ordovician bioerosion revolution. In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 64. # *Palaeosabella, Gastrochaenolites, Rhopalonaria, Sanctum*

laurentiensis, Trypanites, Petroxestes, Rogerella, Gastrochaenolites, Caulostrepsis, Talpina, evolution

Wisshak, M., Freiwald, A. & Gektidis, M. 2004. A bioerosion experiment in a cold-temperate, marine setting (Østerfjord / SW Sweden). In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 66. # experiments

Wisshak, M., Gektidis, M., Freiwald, A. & Lundälv, T. 2005. Bioerosion along a bathymetric gradient in a cold-temperate setting (Kosterfjord, SW Sweden): an experimental study. Facies, 51: 93-117.

Wisshak, M. & Rüggeberg, A. 2006. Colonisation and bioerosion of experimental substrates by benthic foraminiferans from euphotic to aphotic depths (Kosterfjord, SW Sweden). Facies, 52: 1-7. # foraminifers, recent

Wisshak, M., Volohonsky, E. & Blomeier, D. 2004. Acanthodian fish trace fossils from the early Devonian of Spitsbergen. Acta Palaentologica Polonica, 49(4): 629-634. # *Undichna septemsulcata* isp. n., *Merostomichnites, Diplichnites, Siskemia, Cruziana, Svalbardichnus*

Wisshak, M., Volohonsky, E. & Freiwald, A. 2004. A trace fossil assemblage from fluvial Old Rwed deposits (Wood Bay Formation; Lower to Middle Devonian) of NW-Spitsbergen, Svalbard. Lethaia, 37: 149-163. # *Beaconites, Beaconites barretti, Cruziana polaris* isp. n., *Ispodichnus, Merostomichnites, Planolites, Rusophycus, Siskemia elegans, Svalbardichnus trilobus* igen. n., isp. n., fluvial

Wojewoda, J. 2004. Skamieniałości śladowe w płytkowodnych osadach santonu na obszarze rowu górnej Nysy Kłodzkiej. In: Muszer, J. (ed.), Zapis Paleontologiczny jako Wskaźnik Paleośrodowisk, XIX Konferencja Naukowa Paleobiologów i Biostratygrafów PTG, Wrocław 16 – 18 września 2004 roku. Wrocław, p. 95. [In Polish]. # *Corophium, Diplocraterion, Ophiomorpha, Thalassinoides,* tracks, reptiles, Cretaceous, Poland

Worsley, D. & Mork, A. 2001. The environmental significance of the trace fossil *Rhizocorallium jenense* in the Lower Triassic of western Spitsbergen. Polar Research, 20(1): 37-48. # *Skolithos*, *Diplocraterion*, orientation

Woźniak, P., Sikora, R. & Niedźwiedzki, R. 2005. Góra Św. Anny oraz cmentarzysko triasowych gadów w Krasiejowie – możliwości wykorzystania aspektów geologicznych w turystyce. In: Jureczko, J., Buła, Z. & Żaba, J. (eds.). Geologia i Zaganienia Ochrony Środowiska w Regionie Górnosląskim, 72 Zjazd Naukowy Polskiego Towarzystwa Geologicznego, Rudy k/Rybnika, 14-16 września 2005. Warszawa, p. 233-242. [In Polish] # *Balanoglossites, Palaeophycus, Rhizocorallium commune, Thalassinoides,* Triassic, Poland

Yang, B.C., Dalrymple, R.W. & Chun, S.S. 2005. Sedimentation on a wave-dominated, open-coast tidal flat, south-western Korea: summer tidal flat – winter shoreface. Sedimentology, 52(2): 235-252. # *Lingula*, bioturbation, recent

Yelinek, K. & Chin, K. 2004. Curious invertebrate burrows associated with *Daemonelix* burrows of the Miocene Harrison Formation. In: Buatois, L.A. & Mángano, M.G. (eds.), Ichnia 2004, First International Congress on Ichnology, April 19-23, 2004, Museo Paleontólogico Egidio Feruglio, Trelew, Patagonia, Argentina. Abstract Book, p. 84-85. # *Palaeocastor,* USA

Zanin, V.G. & Zamirailova, A.G. 2003. Trace fossils of the Upper Bazhenov and Georgiev formations of the Westv Siberian Plate. Geologiya i Geofizika, 44(6): 517-524. # *Chondrites, Skolithos, Thalassinoides,* Jurassic, Russia

Zasadil, B. & Mikuláš, R. 2004. One of the earliest papers (1905) on the Palaeozoic insect wood bioerosion (Permian, Czech Republic). In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 67. # history

Zatoń M., Marynowski L. & Bzowska G. 2006. Konkrecje hiatusowe z iłów rudonośnych Wyżyny Krakowsko-Częstochowskiej (Hiatus concretions from the ore-bearing clays of the Cracow-

Częstochowa Upland (Polish Jura)). Przegląd Geologiczny, 54(2): 131-138. # *Entobia, Gastrochaenolites, Trypanites*, *Glossifungites*, borings, Middle Jurassic, Poland

Zhang, G., Bromley, R.G., Chodyń, R. & Uchman, A., 2005. Sea cucumber *Teichichnus* from the Eocene flysch of the Silesian Unit, Carpathians, Poland. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 65-66. University of Auckland, Auckland. # *Chondrites targionii*, *Ophiomorpha annulata*, *Paleodictyon strozzii, Phycosiphon incertum, Protovirgularia, Teichichnus, Thyone briareus*

Zhang, G., Guo, W. & Zeng, Y. 2004. Ichnofabric characteristics of fluvial and lacustrine sediments of the Upper Cretaceous in Xixia Basin, Henan Province. Journal of Palaeogeography, 6(4): 434-441. [In Chinese, English abstract]. # *Cylindricum, Palaeophycus tubularis, Skolithos linearis,* Scoyenia ichnofacies, Arenicolites ichnofacies, China

Zhang, G. & Wang, D. 2005. Ichnofabrics in the Upper Carboniferous carbonates of Taiyuan Formation, Jiaozuo area, western Henan Province, China. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 67-68. University of Auckland, Auckland. # *Chondrites*, *Nereites, Ophiomorpha, Planolites, Rhizocorallium, Zoophycos*

Zhang, G., Zeng, Y., Buatois, L.A. & Mangano, M.G. 2005. Lacustrine deposits and associated trace fossils in the upper part of the Tanzhuang Formation (T_{2-3}), Jiyuan Basin, Henan Province. Sedimentologica Sinica, 23(1): 100-106. [In Chinese, English abstract]. # *Palaeophycus, Skolithos linearis,* Triassic, China

Zhi-Cheng, Z., Willems, H., Jun, X., Hua-Ming, Z. & Jing-Song, T. 2004. Mesozoic trace fossils from Lhozhag area of Southern Tibet and their environmental significance. Acta Palaeontologica Sinica, 43(2): 221-233. # *Arenicolites, Beaconites antarcticus, Chondrites, Cruziana semiplicata, Helminthoida labyrinthica, Nereites, Palaeophycus tubularis, Phycodes circinatum, Plagiogmus, Protovirgularia dichotoma, Psammichnites, Scolicia, Skolithos verticalis, Taenidium, Teichichnus rectus, Unarites suleki,* Triassic, Jurassic, Cretaceous, China

Ziółkowski, P. 2005. Deformacje skamieniałości śladowych a process kompakcji w wapieniach mikrytowych górnej jury okolic Korzkwi (Wyżyna Krakowska) (Deformations of trace fossils versus compaction in micritic limestones, an example from Korzkiew, Upper Jurassic (Kraków Upland). Tomy Jurajskie, 3: 55-61. [In Polish, English abstract]. # *Chondrites, Cylindrichnus, Asterosoma, Palaeophycus*, Poland

Žítt, J. & Mikuláš, R. 2004. Substrate of bivalve borers as recorded on phosphatic fills of *Gastrochaenolites* (Bohemian Cretaceous Basin). In: Mikuláš, R. (ed.), 4th International Bioerosion Workshop, Prague, August 30 - September 3, 2004, Abstract Book. Institute of Geology, Academy of Sciences of the Czech Republic, Prague, p. 68-69. # *Gastrochaenolites*, Czech Republic

Zorn, M.E., Lalonde, S.V., Gingras, M.K., Kohnhauser, K.O. & Pemberton, S.G., 2005. Microscale distribution of oxygen in burrows of several intertidal Invertebrates from Willapa Bay, Washington. In: Campbell, K.A. & Gregory, M.R. (eds.), 8th International Ichnofabric Workshop, Auckland, New Zealand, 17th-23rd February 2005, Programme and Abstracts, p. 69. University of Auckland, Auckland. # *Arenicola marina, Corophium volutator, Heteromastus, Hemigrapsus oregonensis, Saccoglossus* sp.*,* recent

In press

Bertling, M., Braddy, S., Bromley, R.G., Demathieu, G.R., Genise, J., Mikuláš, R., Nielsen, J.K., Nielsen, K.S.S., Rindsberg, A.K., Schlirf, M. & Uchman, A. In press. Names for trace fossils: a uniform approach. Lethaia.

Bromley, R., Buatois, L., Genise, J.F., Labandeira, C., Mángano, G., Melchor, R., Schlirf, M. & Uchman, A. In press. Comments on the paper “Reconnaissance of Upper Jurassic Morrison Formation ichnofossils, Rocky Mountain Region, USA: paleoenvironmental, stratigraphic, and paleoclimatic significance of terrestrial and freshwater ichnocoenoses” by Stephen T. Hasiotis. Sedimentary Geology.

Bromley, R.G., Buatois, L.A., Mángano, M.G., Genise, J.F. & Melchor, R.N. (eds.). In press. Organism-sediment interactions: A multifaceted ichnology. Society for Sedimentology, SEPM Special Publication.

Bromley, R., Wisshak, M., Glaub, I. & Botquelen, A. In press. Ichnotaxonomic review of dendriniform borings attributed to foraminifera: *S**********a* igen. nov. In: Miller, W. (ed.), Trace Fossils. Amsterdam, Elsevier.

Duringer, P., Schuster, M., Genise, J.F., Likius, A., Mackaye, H., Vignaud, P. & Brunet, M. In press. The first fossil fungus gardens of Isoptera: oldest evidence of symbiotic termite fungiculture (Miocene, Chad Basin). Naturwissenchaften.

Genise, J.F., Laza, J.H. & Rindsberg, A.K. In press. The ichnogenus *Coprinisphaera* Sauer, 1955 (Coprinisphaeridae): proposed conservation. Bulletin of Zoological Nomenclature.

Genise, J. F., Melchor, R., Bellosi, E., González, M. & Krause, M. In press. New insect pupation chambers (pupichnia) from the Late Cretaceous of Patagonia (Argentina). Cretaceous Research.

Genise, J.F., Melchor, R.P., Netto, R.G. & Rindsberg, A.K. (eds.). In press. Ichnotaxonomy: the foundation of the building. Ichnos, special issue.

Glaub, I., Golubić, S., Gektidis, M., Radtke, G. & Vogel, K. In press. Microborings and microbial endoliths: Geological implications. In: Miller, W. (ed.), Trace Fossils. Amsterdam, Elsevier.

Gregory, M.G., Campbell, K.A., Zuraida, R. & Martin, A.J. In press. Plant trace fossils resembling/mimicking *Skolithos*. Ichnos, 13.

Irvin, G.D., Osborne, W.E. & Rindsberg, A.K. In press. Geology of the Birmingham North 7.5-minute quadrangle, Jefferson County, Alabama. Geological Survey of Alabama, Quadrangle Series. Tuscaloosa.

Löwemark, L., Lin, Y., Chen, H.-F., Yang, T.-N., Beier, C., Werner, F., Lee, C.-Y., Song, S.-R. & Kao, S.-J. In press. Sapropel burn-down and ichnological response to Late Quaternary sapropel formation in two ~400 ky records from the eastern Mediterranean Sea. Palaeogeography, Palaeoclimatology, Palaeoecology.

Malumián, N., López C., M.I., Nañez, C. & Olivero, E.B. In press. Bioerosion patterns in benthic foraminiferal tests through the Cretaceous and Cenozoic of Patagonia and Tierra del Fuego, Argentina. Bromley, R.G., Buatois, L.A., Mángano, M.G., Genise, J.F. & Melchor, R.N. (eds.), Organism-sediment interactions: A multifaceted ichnology. SEPM Special Publication. 2007. SEPM Special Publication.

Martin, A.J. In press. Field Guide to Trace Fossils of San Salvador. Gerace Research Center, San Salvador, Bahamas.

Martin, A.J. & Rindsberg, A.K. In press. Cubichnia: When is resting more than just resting? Geological Society of America Abstracts with Programs.

Martin, A.J. & Rindsberg, A.K. In press. Arthropod tracemakers of *Nereites:* neoichnological observations and their paleoichnological applications. In: Miller, W., III (ed.), Trace Fossils: Concepts, Problems and Prospects. Elsevier.

McIlroy, D. In press. Lateral variability in shallow marine ichnofabrics: implications for the ichnofabric analysis method. Journal of the Geological Society, London.

Melchor, R.N., Bedatou, E., Valais, S. de & Genise, J.F. In press. Lithofacies distribution of invertebrate and vertebrate trace fossil assemblages in an Early Mesozoic ephemeral fluvio-lacustrine system from Argentina: Implications for the Scoyenia ichnofacies. Palaeogeography, Palaeoclimatology, Palaeoecology.

Rindsberg, A.K. In press. Fixing types of ichnotaxa. In: Mikuláš, R. (ed.), Third Workshop on Ichnotaxonomy, Abstracts. Praha.
Verde, M., Ubilla, M., Jimenez, J.J. & Genise, J.F. In press. A new earthworm trace fossil from palaeosols: aestivation chambers from the Late Pleistocene Sopas Formation of Uruguay. Palaeogeography, Palaeoclimatology, Palaeoecology.
Virtasalo JJ, AT Kotilainen, and MK Gingras. Trace fossils as indicators of environmental change in Holocene sediments of the Archipelago Sea, northern Baltic Sea. Palaeogeography, Palaeoclimatology, Palaeoecology (2006) 15 p.

Checklist of new ichnotaxa

Ichnotaxa ascribed to invertebrates

Coprinisphaeridae Genise, 2004
Krausichnidae Genise, 2004
Pallichnidae Genise, 2004
Alcyonidiopsis bavaricus Uchman, 1999
Anellusichnus circularis Santos, Mayoral & Muñiz, 2005
Anellusichnus Santos, Mayoral & Muñiz, 2005
Anellusichnus undulatus Santos, Mayoral & Muñiz, 2005
Arenicolites longistriatus Rindsberg & Kopaska-Merkel, 2005
Arthrophycus minimus Mángano, Carmona, Buatois & Guinea, 2005
Atollites italicum Serpagli, 2005
Bicavichnites Lane, Braddy, Briggs & Elliott, 2003
Bicavichnites martini Lane, Braddy, Briggs & Elliott, 2003
Bifungites munizi Agostinho, Viana & Fernandes, 2004
Bifungites piauiensis Agostinho, Viana & Fernandes, 2004
Chondrites stellaris Uchman, 1999
Chondrites hamatus Brustur, 2005
Coenobichnus currani Walker, Holland & Gardiner, 2003
Coenobichnus Walker, Holland & Gardiner, 2003
Cruziana polaris Wisshak, Volohonsky & Freiwald, 2004
Cylindrichnus helix Gibert, Netto, Tognoli & Grangeiro 2006
Cystichnium curvativum Hu & Wu, 1993
Cystichnium Hu & Wu, 1993
Flexorhaphe Kappel, 2003
Foersterichnus Pirrie, Feldmann & Buatois, 2004
Foersterichnus rossensis Pirrie, Feldmann & Buatois, 2004
Furnasicnhus Borghi & Fernandes, 2001
Furnasicnhus langei Borghi & Fernandes, 2001
Herradurichnus Poiré & Valle, 1996
Hormosiroidea meandrica Balistieri, Netto & Lavina, 2002
Korymbichnus conflabellatus Damborenea & Manceñido, 1996
Korymbichnus Damborenea & Manceñido, 1996
Kouphichnium pentapodus Erickson, 2005
Laqueichnus baloffi Kappel, 2003
Laqueichnus Kappel, 2003
Lazaichnus fistulosus Mikuláš & Genise, 2003
Lazaichnus Mikuláš & Genise, 2003
Maiakarichnus currani Verde & Martínez, 2004
Maiakarichnus Verde & Martínez, 2004
Megagrapton fornicatum Kappel, 2003
Meriostomichnites gracilis Weber & Braddy, 2004
Monomorphichnus lineatus Hu & Wu, 1993
Monomorphichnus podolicus Uchman, Drygant, Paszkowski, Porębski & Turnau, 2004
Monticulichnus Kappel, 2003
Monticulichnus puteus Kappel, 2003
Octopodichnus minimus Kozur & LeMone, 1995
Oldhamia alata Seilacher, Buatois & Mángano, 2005
Oldhamia geniculata Seilacher, Buatois & Mángano, 2005

Oldhamia kernnesraniensis El Hassani & Willefert, 1990
Oldhamia recta Seilacher, Buatois & Mángano, 2005
Ophiomorpha puerlis Gibert, Netto, Tognoli & Grangeiro 2006
Paradictyodora antarctica Olivero, Buatois & Scasso, 2004
Paradictyodora Olivero, Buatois, & Scasso, 2004
Paradidymaulichnus emeiensis Hu & Wu, 1993
Paradidymaulichnus Hu & Wu, 1993
Patagonichnus calyciformis Olivero & López Cabrera, 2005
Patagonichnus Olivero & López Cabrera, 2005
Patagonichnus stratiformis Olivero & López Cabrera, 2005
Patagonichnus thalassiformis Olivero & López Cabrera, 2005
Permichnium robledoense Kozur & LeMone, 1995
Persichnus Uchman, Abbassi & Naeeji, 2005
Phycodes dentatus Brustur, 2005
Phymatoderma penicillum Uchman, 1999
Pilichnus dichotomus Uchman, 1999
Pilichnus Uchman, 1999
Robledoichnus Kozur & LeMone, 1995
Robledoichnus lucasi Kozur & LeMone, 1995
Rusophycus moyensis Mángano, Buatois& Muñiz-Guinea, 2002
Rusophycus univalvis Hu & Wu, 1993
Saronichnus abeli Pervesler & Zuschin, 2004
Saronichnus Pervesler & Zuschin, 2004
Selenichnites antarcticus Weber & Braddy, 2004
Shalemichnus Kozur & LeMone, 1995
Shalemichnus sittigi Kozur & LeMone, 1995
Sidichnus catena Kappel, 2003
Sidichnus Kappel, 2003
Sinusichnus priesti Kappel, 2003
Solanichnium confinis Kappel, 2003
Spirodesmos milanai Aceñolaza, 2005
Steinichnus largus Hu & Wu, 1993
Streptichnus Jensen & Runnegar, 2005
Streptichnus narbonnei Jensen & Runnegar, 2005
Svalbardichnus trilobus Wisshak, Volohonsky & Freiwald, 2004
Svalbardichnus Wisshak, Volohonsky & Freiwald, 2004
Talpina hunanesis Stiller, 2005
Taenidium recurvum Leszczyński, 2004
Taphrhelminthoides antarcticus Weber & Braddy, 2004
Taphrhelminthoides Weber & Braddy, 2004
Treptichnus apsorum Rindsberg & Kopaska-Merkel, 2005
Tombownichnus Mikuláš & Genise, 2003
Tombownichnus parabolicus Mikuláš & Genise, 2003
Tombownichnus plenus Mikuláš & Genise, 2003
Torrowangea annulata Amerom, Broutin, Ferrer, Gámez-Vintaned, Liñán & Gisbert, 1993
Trichichnus appendicus Uchman, 1999
Tursia D'Alessandro & Fürsich, 2005
Tursia flabelliformis D'Alessandro & Fürsich, 2005

Ichnotaxa ascribed to vertebrates

Alabamosauripus aldrichi Hunt, Lucas, & Lockley, 2004
Alabamosauripus Hunt, Lucas, & Lockley, 2004
Albertasuchipes McCrea, Pemberton & Currie, 2004
Albertasuchipes russellia McCrea, Pemberton & Currie, 2004
Anoployheriipus zeucus Sarjeant & Langston, 1994
Apoxypus Sarjeant & Langston, 1994
Apoxypus tesselatus Sarjeant & Langston, 1994
Asianopodus Matsukawa, Shibata, Kukihara, Koarai & Lockley, 2005
Asianopodus pulvinicalx Matsukawa, Shibata, Kukihara, Koarai & Lockley, 2005
Avipeda adunca Sarjeant & Langston, 1994
Axiciapes curvidigitatus Sarjeant & Langston, 1994
Axiciapes ferox Sarjeant & Langston, 1994
Axiciapes Sarjeant & Langston, 1994
Borealosuchus Erickson, 2005
Borealosuchus hanksi Erickson, 2005
Caririchnium protohadrosaurichnus Lee, 1997
Chelipus Sarjeant & Langston, 1994
Chelonipus chadronicus Sarjeant & Langston, 1994
Chelonipus parvus Sarjeant & Langston, 1994
Corymbipes Sarjeant & Langston, 1994
Corymbipes superstes Sarjeant & Langston, 1994
Falcatipes floriformis Sarjeant & Langston, 1994
Falcatipes Sarjeant & Langston, 1994
Felipeda parvula Anton, López & Santamaria, 2004
Fuscinapeda meunieri Sarjeant & Langston, 1994
Fuscinapeda Sarjeant & Langston, 1994
Fuscinapeda texana Sarjeant & Langston, 1994
Fuscinapedis Lee, 1997
Fuscinapedis woodbinensis Lee, 1997
Gambapes hastatus Sarjeant & Langston, 1994
Gambapes Sarjeant & Langston, 1994
Gruipeda calcarifera Sarjeant & Langston, 1994
Gruipeda lambrechti Ataabadi & Khazaee, 2004
Handrosauropus langstoni Lockley, Nadon & Currie, 2004
Handrosauropus Lockley, Nadon & Currie, 2004
Hypsiloichnus marylandicus Stanford, Weems & Lockley, 2004
Hypsiloichnus Stanford, Weems & Lockley, 2004
Ignotornis yangi Kim, Kim, Kim & Lockley 2006
Iranipeda millumi Doyle, Wood & George, 2000
Mangovipes Lee, 1997
Mangovipes lowei Lee, 1997
Ornithoformipes controversus Patterson & Lockley, 2004
Ornithoformipes Patterson & Lockley, 2004
*Palaeotheriipus sarjeant*i Ataabadi & Khazaee, 2004
Palimmecopus praceursor Sarjeant & Langston, 1994
Palimmecopus Sarjeant & Langston, 1994
Parundichna schoelli Simon, Hagdorn, Hagdorn & Seilacher, 2003
Parundichna Simon, Hagdorn, Hagdorn & Seilacher, 2003
Phacelopsus Sarjeant & Langston, 1994

Phacelopsus therates Sarjeant & Langston, 1994
Phalangichnus gagoli Ptaszyński & Niedźwiecki, 2004
Phalangichnus gradzinskii Ptaszyński & Niedźwiecki, 2004
Protochirotherium Fichter & Kunz, 2004
Protochirotherium wolfhagense Fichter & Kunz, 2004
Ptyariopus aichmanticheirus Sarjeant & Langston, 1994
Ptyariopus Sarjeant & Langston, 1994
Puertollanopus microdactylus Soler-Gijón & Moratalla, 2001
Rhynchosauroides kuletae Ptaszyński & Niedźwiecki, 2004
Roepichnus Doyle, Wood & George, 2000
Roepichnus grahami Doyle, Wood & George, 2000
Sarjeantipes McCrea, Pemberton & Currie, 2004
Sarjeantipes whitea McCrea, Pemberton & Currie, 2004
Sarjeantipodidae McCrea, Pemberton & Currie, 2004
Sarjeantopodus Lockley, Nadon & Currie, 2004
Sarjeantopodus semipalmatus Lockley, Nadon & Currie, 2004
Saurexallopus zerbsti Lockley, Nadon & Currie, 2004
Schizograllator otariensis Matsukawa, Shibata, Kukihara, Koarai & Lockley, 2005
Schromorphichnus oxypages Sarjeant & Langston, 1994
Schromorphichnus Sarjeant & Langston, 1994
Tetrastoibopus phoros Sarjeant & Langston, 1994
Tetrastoibopus Sarjeant & Langston, 1994
Tricorynopus elaphrus Sarjeant & Langston, 1994
Tricorynopus Sarjeant & Langston, 1994
Trinaxopus hoplephoreus Sarjeant & Langston, 1994
Trinaxopus Sarjeant & Langston, 1994
Undichna septemsulcata Wisshak, Volohonsky & Blomeier, 2004
Zanclonychopsus Sarjeant & Langston, 1994
Zanclonychopus cinicalcator Sarjeant & Langston, 1994