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# Pander Society Newsletter

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<http://www.le.ac.uk/geology/map2/pander/>

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## INTRODUCTORY REMARKS

**W**ELCOME once again to the Pander Society Newsletter. The last year saw two main Pander Society meetings, AUSCOS-2 in Orange and the annual US meeting, this year in Fayetteville. The Australian meeting seems to have been a particular success, so many thanks to Ruth Mawson, John Talent and their energetic team for organising the whole 'Palaeontology Down Under' jamboree of which the AUSCOS symposium formed an important part. The Fayetteville gathering seems to have been rather more exclusive, perhaps reflecting the relative decline in the numbers of active conodont specialists in North America and the necessity of directing scarce personal funds towards international rather than national conferences. However, all get-togethers of Pander Society members to discuss conodonts help to advance our science, and we greatly appreciate Jim Barrick's efforts in organising the Fayetteville meeting and this year's follow-up in Normal, Illinois. We have also received notifications of other, more informal, Pander Society meetings that took place over the last year (see below), and we will be very pleased to report similar meetings that occur in 2001.

We trust you will enjoy reading this year's newsletter and that you will all continue to keep us informed of your conodont-related activities. Can we particularly draw attention to the brief item below suggesting that the Pander Society archive is brought up to date - please send copies of any relevant documents and photographs to the Chief Panderer so that a comprehensive historical record can be maintained.

Dick Aldridge  
Chief Panderer

Mark Purnell  
Pander Society Webmaster

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### PANDER SOCIETY MEDAL

As many Panderers will know from the announcement on con-nexus, the Pander Society has awarded a medal to Stig M. Bergström. Stig is the twelfth Pander Society Medallist, and his medal is being formally awarded at the Pander Society meeting at the North-Central Section meeting of the GSA in Bloomington-Normal, Illinois, April 23-24 2001 (see details below). The presentation is to be made by a current medal-holder, Ray Ethington. The procedure for award of a Pander Medal is that a nomination may be made by any member or members of the Society to the Chief Panderer, who consults a medal committee of international conodont workers (currently Willi Ziegler, Wang Cheng-Yuan and Godfrey Nowlan) who review the application independently. If the nomination receives the support of the committee, Walt Sweet organises the production of a medal for presentation at an appropriate occasion. So, many congratulations to Stig, for having passed successfully (and with unanimous and enthusiastic support) through this procedure. Below are some extracts from the nomination document:

"It is not just writer's block that makes it difficult to decide where to begin when documenting the contributions Stig Bergström has made to Ordovician paleontology and stratigraphy in general and to our understanding of conodonts in particular.

Stig received his university education at Lund in Sweden and soon thereafter accepted a position as Curator in the Orton Museum at Ohio State University. He began his

conodont work in Sweden with a study of the fauna of the Ludibundus Limestone, and has returned often to his native Sweden to work on faunas of the Baltic region. Early in his career at Ohio State, Stig collaborated with Walter Sweet on a study of the abundant conodonts of the Lexington Limestone, an outgrowth of which was clear demonstration that the apparatus of conodonts could be reconstructed from discrete, isolated elements in the absence of whole animal fossils. Soon thereafter he and Walt recognized that Ordovician conodonts clearly display geographic partitioning in their distributions and differentiated areas characterized by warm/shallow-water faunas from those with cold-/deep water faunas.

For the past four decades, Stig and his students at Ohio State University have conducted research on conodonts of the cold water faunas of the Middle Ordovician, based primarily on occurrences in the southern Appalachian Mountains and on the Baltic Platform. The result has been a major increase in the number of genera and species recognized in this interval and detailed documentation of their stratigraphic and geographic distribution.

For the past decade Stig has also collaborated with Warren Huff and Dennis Kolata in the characterization of Ordovician and Silurian K-bentonite beds in North and South America and northern Europe. This research has identified events of near instantaneous duration that can be traced inter-regionally and provide a chronologic calibration to the biozones based on conodonts and other fossils.

Stig is not just a dedicated enthusiast for conodonts and associated fossils. His published and oral presentations include numerous contributions to the basic framework of Ordovician stratigraphy on a global scale. He is one of the foremost authorities on the evolution of the Early Paleozoic Iapetus Ocean. His work has sharpened the resolution of age relations between Europe, North America, South America and Asia.

The SEPM (Society for Economic Paleontologists and Mineralogists) presented Stig its Moore Medal in 1998. At that time he was described as "a world leader in his field owing to hard work, intellect, a global comprehension, and a remarkable memory for detail. ... His true recognition comes from the multitude of colleagues and students who admire and enjoy him as a teacher, a colleague, and a friend." It is appropriate that we, his students, colleagues, and friends of four decades, recognize his many contributions to our mutual enterprise by awarding the Medal of the Pander Society to Stig M. Bergström."

The roll of honour of Pander Society medallists now stands as:

John Huddle  
Sam Ellison  
Walt Sweet  
Anita Harris  
Carl Rexroad  
Ray Ethington

William Furnish  
Heinz Beckmann  
Willi Ziegler  
Maurits Lindström  
Gil Klapper  
Stig Bergström

## PEOPLE

Ali Murat Kiliç writes: We are going to establish a Conodont Working Group in Turkey. We would appreciate it if conodont workers could send us books, reprints, posters, etc. relating to conodonts for our newly established library of the Conodont Working Group of Turkey.

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## ARCHIVE

Dick Aldridge writes: Back in the 1980s, during a visit to the University of Iowa, Brian Glenister showed me a file he had retained of all the early correspondence surrounding the formation of the Pander Society and its first meeting. My memory of this has been stimulated by some recent snippets of Pander Society history that Brian has sent along to me. These include a copy of the invitation issued by the Glenisters and the Rexroads to a social evening prior to the first Pander Society meeting in 1968. It seems that controversy and conodonts have never been far separated; the invitation begins: "One of

our colleagues has suggested that the forthcoming meeting of the Pander Society may reveal minor differences of opinion. Although we consider this improbable, we are resolved that the session will commence in good spirits." It ends: "P.S. Bring your hard hat – for the field, not the party!"

Another item in Brian's package is a copy of a letter written by Harold Scott to Bill Furnish announcing his first discovery of 'the animal conodont' and requesting that it be read out at an appropriate time during the symposium. All this tempts me to suggest that we should consider establishing a Pander Society archive before too much material gets lost. If others agree, perhaps they could send me copies of key items relating to national and international meetings of the Pander Society, to major advances in our understanding of conodonts and in their applications, and to the careers of influential conodont specialists. I will establish a file of all the documents and pass it on to my successor so that it can be handed down the line of our intellectual descendants.

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## PANDER SOCIETY MEETINGS 2000

### PANDER SOCIETY MEETING, FAYETTEVILLE, ARKANSAS, APRIL 3-4, 2000

Jim Barrick reports: Sadly, at the South-Central section meeting of GSA in Fayetteville only a few Panderers appeared and fewer conodont papers were presented. Ray Ethington, John Repetski, Steve Leslie, Jim Barrick, Walt Manger, Robert Stamm, and Tim Walsh were present (I think that that was all). Three conodont papers were presented. Informal discussion focused on the future of yearly Pander meetings in the US, the views on which understandably were rather pessimistic. We decided to meet at NC GSA in 2001, hoping to find a meeting site and time that would attract more Panderers.

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### AUSCOS-2: SECOND AUSTRALASIAN CONODONT SYMPOSIUM, ORANGE, AUSTRALIA, 11-25 JULY, 2000

Ruth Mawson (co-organiser) reports: This meeting, held in conjunction with the Third International Symposium on the Silurian System and meetings of IGCP 410 and 421 ["Palaeontology Down Under 2000"], attracted 122 participants of whom 50 were international visitors. The largest foreign contingent consisted of conodont workers, including people from Canada, Italy, USA, China, Iran, Poland, Pakistan and Myanmar. A two-hour workshop on Silurian conodont taxonomy and high-resolution biostratigraphy was run several times by Prof. Lennart Jeppsson (Lund). Two well-attended excursions (8-10 and 16-20 July), both with primary focus on conodont biostratigraphy, were dedicated to the Palaeozoic (primarily Ordovician-Early Devonian) platform and shelf-margin sequences of central New South Wales, and to the Palaeozoic (Ordovician-Early Carboniferous) platform and shelf margin sequences of the Tamworth Belt (NE New South Wales) and coastal central Queensland. Abstracts (included abstracts for associated meetings) were published as Geological Society of Australia Abstracts 61: 183 pp. Papers from the

AUSCOS-2 meeting will be published as a volume of the *Courier Forschungsinstitut Senckenberg* during 2001.

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### MICROVERTEBRATE GROUP OF THE BRITISH MICROPALAEONTOLOGICAL SOCIETY, 15-17 DECEMBER, 2000

Paul Smith and Dick Aldridge report: The microvertebrate group of the British Micropalaeontological Society had its traditional December meeting in Fife, Scotland, during 2000 with Mark Dean taking the role of local leader. A day in the field was followed by an evening of provocative and energetic debate, fuelled by a few beers, while the next day saw the group gathering on the hallowed ground of the Granton Shrimp Bed, just outside Edinburgh. No conodont animals were found (nor were any shrimps!), but the site was accorded due respect. In all, some 16 microvertebrate workers and associates attended, with the majority being conodont aficionados. These meetings precede the annual conference of the Palaeontological Association and overseas workers are most welcome to attend; the proceedings have been considerably enhanced by the presence of guests from abroad in past years!

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### LOWER-MIDDLE TRIASSIC WORKSHOP, TULCEA, ROMANIA, JUNE 7-10, 2000

The Chief Panderer was delighted to receive a postcard last summer featuring a group of stuffed pelicans (can anyone provide the correct collective noun for stuffed pelicans?), and bearing the message: "Yes, there is life in Triassic conodont workers. Stuffed in Romania...!!" Conodont workers do not all have readily legible signatures, but of the four on the card Mike Orchard and Tea Kolar-Jurkovsek are clear. We would be delighted to receive similar communications from other gatherings of Panderers; by tradition, all get-togethers of conodont

workers to discuss conodonts constitute a meeting of the Pander Society

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#### **GONDWANAN ORDOVICIAN MEETING AND FIELD EXCURSION IN MOROCCO, JAN.-FEB., 2001**

John Repetski and Chris Barnes report: A *de facto* Pander Society meeting accompanied the official business meeting and field excursion of the IUGS Subcommission on Ordovician Stratigraphy held in Morocco from 29 Jan. through 7 Feb., 2001, as four active conodont workers participated. This meeting was part of a very successful conference entitled: "The Gondwanan platform during Ordovician times: Climatic, eustatic, and geodynamic evolution" The conference was hosted and organized by Dr. Naima Hamoumi with his colleagues and students, and took place at the Faculty of Sciences of Mohamed V Agdal University in Rabat. Most of the ca. 40 talks and posters over the two-day conference directly addressed aspects of the theme, and several covered related Ordovician geology; at least six of the abstracts directly mention conodonts. Conodontists present included Julie Trotter (Australia), Graciela Sarmiento (Spain), Chris Barnes (Canada) and John Repetski (USA).

Session themes ranged from paleontology, paleobiogeography, & biostratigraphy to facies & sedimentology to paleoclimates to sequence stratigraphy to hydrocarbon potential. Attendance was diverse, and speakers hailed from all Ordovician-bearing continents apart from Antarctica and Asia. It is planned to publish the proceedings of the conference in a Special Volume of the Geological Society of London (subject to final approval of the contents); an Abstracts Book and Field Trip Guidebook (80 pp. each) were produced (contact Prof. Hamoumi for availability: hamoumi@wanadoo.net.ma).

Immediately following the conference, a business meeting of the Ordovician Subcommission was held. Summaries were presented of recent SOS activities and progress, including the decisions on the bases of the System and of the second Series, and a report on the GSA annual meeting, Reno, Nevada, in Nov., 2000, where the base of the Middle Ordovician was discussed. Ricardo Astini invited participation in the next ISOS, to be held in Argentina in 2003.

On the following day, 5 Land Rovers with approximately 35 Ordovicianophiles, including the 4 Panderers, embarked on a 7-day grand tour of the Ordovician exposures in the Moroccan Meseta, High Atlas Mountains, and central and eastern Anti-Atlas Mountains. Over the course of the week we were able to observe numerous well-exposed successions, ranging from the lower Tremadocian through Ashgillian, and representing a broad array of high paleolatitude, deltaic, estuarine, to subtidal marine facies, many exhibiting features reflecting the influence of nearby or *in situ* glacial conditions. Minor impure carbonates were present at most of the stops. Evidence was presented for the effects of glaciation in the late Caradocian and continuing through the Ashgillian. This contrasts with the record of glaciation in nearby Tunisia and Libya where it is restricted to the late Ashgillian. The Moroccan region may have been sufficiently far from most of the migrating ice caps to avoid destruction of the sedimentary record by glacial erosion.

Nearly every stop resulted in lively discussions of the mostly beautifully exposed sedimentary features and their possible interpretations. Collecting of samples was limited only by the time available at each stop and the amount of rock that the participants were willing pack or ship home. Even though only a very small percentage of the Morocco Ordovician is represented by calcareous facies, Panderers collected the most rock, of course, and your reporters strained their packs and backs, and their airline weight limits, hauling their samples home. Graciela Sarmiento promised to return in March, with a research team, to collect some of the sections more properly.

Participants were impressed with not only the extent of the exposures and the breadth of environments present, but also with the relatively small amount of literature concerning these rocks. Aside from the ongoing work by Naima Hamoumi and her students and the considerable body of work by Jacques Destombes (formerly with the Geological Survey of Morocco) spanning several decades, there is little else available, especially concerning detailed sedimentology and stratigraphy. This situation is particularly surprising, considering both the extent of the outcrops and their importance in relation to North African oil and gas resources.

After the evening meal on some nights there were further presentations and discussions. One such discussion concerned means and strategies to enable more work, particularly on paleontology and biostratigraphy, on the North Gondwanan successions. The group was urged to develop, through IUGS and the Subcommission on Ordovician Stratigraphy (SOS), a coordinated research proposal to study the Ordovician-lower Silurian interval across the entire North African region, and was encouraged that such a proposal would likely be supported by the energy ministries and companies of the respective countries. Interested Panderers should keep abreast of possible developments on this front via SOS.

Logistics of the trip were very well planned and coordinated by the leaders. Several cultural stops were arranged that provided an enriching experience. The local quarrying of fossils for sale at innumerable roadside stalls and shops, and trench excavations (in the black Devonian cephalopod limestone that's now famous worldwide in rock shops) that continued for several kilometres in remote desert areas were on an unsurpassed scale. We saw the famous Devonian mud mounds/reefs beyond Erfoud, but only from a distance. The Ordovician workers were somewhat relieved to find that most of the Ordovician trilobites in the shops, and for sale by children almost everywhere, appeared to be genuine, whereas the Devonian ones were overwhelmingly of suspect authenticity. Accommodations were very comfortable and the dinners and field lunches were sumptuous and delicious (especially the breads and in-season local oranges and strawberries!). Even the weather, except for a short stretch of snow, sleet, and cold rain during the second crossing of the High Atlas Mountains, was beautifully sunny, comfortable, and warm. All present returned home impressed with both the spectacular Ordovician geology of Morocco and the hospitality and friendliness of our hosts and indeed of all the Moroccan people that we encountered.

## FUTURE MEETINGS

### **PANDER SOCIETY MEETING 2001**

The Pander Society is meeting with the North-Central section of the Geological Society of America in Normal, Illinois on April 23-24, 2001. Our local representative is, once again, Jim Barrick, who is to be thanked for continuing to fly the conodont flag in the USA and for his work in the organization of the Pander session, which will be held on the afternoon of Monday April 23.

### **ECOS VIII - EIGHTH INTERNATIONAL CONODONT SYMPOSIUM HELD IN EUROPE; TOULOUSE & ALBI, JUNE 22-25, 2002**

For the first time the International Conodont Symposium held in Europe (ECOS VIII) will take place in France and Spain. As well as the Scientific sessions two other important events will take place: the final meeting of International Geological Correlation Program (I.G.C.P.) 421 and a meeting of the Subcommittee on Devonian Stratigraphy (S.D.S).

Toulouse is the 4th largest French city, it is the capital of Midi Pyrenees. The leading European aeronautical and space research centre, Toulouse is also one of the finest cities of art in France. Brick is the dominant construction material used, giving it its particular character and its "nickname of pink city". The University of Toulouse was founded in 1229, and along with those of Bologna (Italy), Oxford (England), Salamanca (Spain) and the Sorbonne (France), is one of the oldest universities in Europe. Albi is a little "pink town" on the bank of the Tarn river, famous for the Cathedral of St Cecile, a masterpiece of the French southern gothic style, and for its collection of Toulouse-Lautrec paintings.

The meeting will be hosted by the "Université Paul Sabatier" in Toulouse and Albi. The Scientific Conference will focus on all aspects of conodont research; a special Session on "Bias and Completeness in the Conodont Fossil Record" will be organised by Mark Purnell and Phil Donoghue. An eight day pre-conference field trip to visit Palaeozoic sequences of Cantabrian Zone, Iberian Chain and East Pyrenees (Spain) will take place from June 13-21, 2002. A six day post conference field trip of Montagne Noire and Pyrenees (France) will take place from June 26-July 1. Both excursions are planned for a maximum of 35 participants.

#### **Program overview:**

**June 13- 21:** Pre-conference field trip in North Spain, organised by S. Garcia Lopez (Oviedo University), J. Sanz-Lopez (Coruña University), and J.L. Valenzuela-Rios (Valencia University).

*Thursday, June 13:* Reception of the participants in Oviedo. Opening session in the afternoon at the Faculty of Geology. Introductory lecture. Visit to Pre-Romanesque sites. Evening party (cider fiesta). Overnight in Oviedo.

*Friday, June 14:* Silurian to Lower Carboniferous rocks along the coast in the Cape Peñas region (Asturias Province). Overnight in Oviedo.

*Saturday, June 15:* Geological sections of the Bernesga valley (León Province). Devonian to Lower Carboniferous formations. Visit to a coal quarry (Stephanian). Overnight in Oviedo.

*Sunday, June 16:* Ponga and Picos de Europa areas (Asturias Province). Carboniferous rocks. Visit to Covadonga lakes. Overnight in Cervera de Pisuerga (Palencia Province).

*Monday, June 17:* Upper Silurian to Lower Devonian section in the Palentine Domain. Visit to Romanesque sites. Overnight in Cervera de Pisuerga.

*Tuesday, June 18:* Travel from Cervera de Pisuerga to Daroca (Zaragoza Province). Stops to visit historical sites and a wine cellar in La Rioja. Overnight in Daroca.

*Wednesday, June 19:* Upper Ordovician and Lower Devonian rocks in the Iberian Chain. Overnight in Daroca.

*Thursday, June 20:* Departure from Daroca to central Pyrenees. Visit to Silurian rocks in the Noguera Pallaresa valley and Lower Devonian rocks in the Segre valley (Catalonia). Overnight in Alp (Girona Province).

*Friday, June 21:* Upper Devonian to Lower Carboniferous rocks in the Tosa d'Alp section (eastern Pyrenees). Afternoon arrival in Toulouse. Evening ice-breaking party at the Paul Sabatier University, Toulouse.

**June 22-25:** The Scientific sessions will begin in Toulouse on June 22 and will end in Albi on June 25. Transport by bus will be provided for participants returning to Toulouse on June 25.

**June 26-July 1:** Post-conference field trip in Southwest of France organised by R. Feist (Montpellier) C. Girard (Lyon), C. Cygan and M.F. Perret (Toulouse) The excursion will start from Albi.

*Wednesday, June 26:* Devonian of the Mont Peyroux area (South-eastern Montagne Noire); stratotype sections and GSSP's of the Givetian/Frasnian and Frasnian/Famennian stage boundaries. Overnight in St Chinian.

*Thursday, June 27:* Lower Carboniferous of the Mont Peyroux area; Middle to Upper Devonian and Lower Carboniferous of the Cabrières Klippen area; stratotype section and GSSP of the Devonian/Carboniferous period boundary. Overnight in Pézenas. (Possibility of transport to the airport of Montpellier for early departure in the latest afternoon.)

*Friday, June 28:* Ordovician/Silurian and Lower Devonian of the Cabrières Klippen area. Cambrian and Lower Ordovician of the South-western Montagne Noire (Ferrals-les-Montagne, Minervois). Overnight in Carcassonne.

*Saturday, June 29:* Travel from Carcassonne to Lourdes. During the travel one stop to examine Upper Devonian to Lower Carboniferous section in the Arize Massif (Ariège). Overnight in Lourdes.

*Sunday, June 30:* Visit to Carboniferous (Visean, Serpukhovian, Bashkirian) section in Gavarnie Nappe in the Pau Valley (Hautes Pyrénées), stop to visit a wine cellar in Jurançon. Overnight in Aspe Valley.

*Monday, July 1:* Upper Devonian (Frasnian) to Serpukhovian in Aspe Valley (France and Spain). End of field trip in the afternoon, arrival in Toulouse is scheduled for late afternoon.

**Second circular:** Will be sent in October 2001 to people who reply to the first circular. A website will be arranged as soon as possible.

**Conference language:** English

**Communications:** May be presented either in oral form or as posters. Oral presentation will be 15 minutes + 10 minutes for discussion. Overhead, slide projectors and LCD video projector will be available to speakers. The size of Posters will be (120 X 100) Both kinds of contributions must be submitted as abstracts.

**Publications:** All abstracts will be published in a special volume received by each participant. Abstracts will be sent both in diskette and hard copy form, according to the instructions to be communicated in the second circular. Manuscripts based on conference contributions will be refereed and published in one of several possible journals: a normal volume of *Géobios* or *Société Géologique de France*, *Revista Española de Micropaleontología*, *Palaeontology*, or *Special Papers in Palaeontology*.

**Accommodation:** We will organise a selection of hotels of different classification (first class, medium, "cheap", details and map in the 2nd circular). Bookings are to be made by participants direct to the hotels. Accommodation may be booked in University Residences for young researchers and people from less favoured countries.

**Registrations fees:** Because of the early date for this circular and fluctuations in the value of the Euro costs will not be notified until the second circular.

**Letter of invitation:** If an official document is needed to confirm participation or help arrange funds for travel and attendance, please write or contact the organisers.

**Social events:** To be announced in the second circular.

**Deadlines:**

*Return of first circular:* September 1, 2001.

*Return of second circular:* January 31, 2002 (third circular, with scientific program, will be sent in March 2002 to those people who reply to the second circular).

*Registration fee:* January 31, 2002.

*Deposit for field excursion(s):* January 31, 2002.

*Accommodation:* University residence in Toulouse, booking and deposit January 31, 2002.

*Abstracts:* January 31, 2002.

*Field excursion(s) full payment:* March 31, 2002.

*Accommodation:* University Residence in Toulouse, full payment March 31, 2002.

*Submission of manuscripts:* December 1, 2002

Please address all correspondence to:

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Details and a Registration form for ECOS VIII are now available via the con-nexus website at: <http://www.le.ac.uk/geology/map2/con-nexus/con-nexus.html>  
And from the Pander Society website at: <http://www.le.ac.uk/geology/map2/pander/index.html>

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**OTHER MEETINGS**

***Joint field meeting of IGCP 410 and 421: Altai Mountains (SW Siberia) and SW Mongolia***

A joint field meeting of IGCP 410 ("The Great Ordovician Diversification") and 421 (North Gondwana mid-Palaeozoic Bioevents/Biogeography), with a strong emphasis on Ordovician-Early Carboniferous conodont biostratigraphy, will be held in SW Siberia (1-17 August with 2-day session of papers, 15 - 16 August) and Mongolia (21 August - 9 September). The SW Siberia portion is being led by conodontophile E. A. Yolkin of the Siberian Branch of the Russian Academy of Science. Details are available on the IGCP 410 and 421 home pages, accessible through <http://www.es.mq.edu.au/MUCEP/>

***First International Palaeontological Congress (Sydney, 6-10 July 2002)***

*Venue:* Sydney, principally Macquarie University, with a portion of the programme at the Australian Museum. There is abundant accommodation (student to 4-star categories) in the vicinity of Macquarie University.

*Sponsors:* International Palaeontological Association, the Australasian Association of Palaeontologists, and the Macquarie University Centre for Ecostratigraphy and Palaeobiology.

*Symposia of interest to conodontophiles will include:* Global extinction events (abrupt, gradual or polyphase); Evolution of pelagic communities through time; Computer palaeobiogeography; High precision biostratigraphic alignments.

*Excursions:* These include a long post-conference excursion pitched for conodontophiles, focusing on the Palaeozoics of NE Queensland (Broken River region; Burdekin and Hodgkinson Basins) and the Canning Basin of Western Australia.

E-mail address for everything to do with the Congress is: [IPC2002@mq.edu.au](mailto:IPC2002@mq.edu.au)

Note that ECOS-VIII (Oviedo-Toulouse-Montpellier) is timed so that participants may conveniently link up with IPC 2002, including its pre-conference excursions.

## SUMMARY OF TOPICS MENTIONED IN RESEARCH REPORTS

**A. Cambrian.** Albanesi, Dong, Harris, Kozur, Lehnert, Nowlan, Repetski, Sansom, Serpagli, Smith, Szaniawski

**B. Ordovician.** Albanesi, Aldridge, Armstrong, Bagnoli, Barnes, Bauer, Bradley, Bultynck, Dong, Donoghue, Ferretti, Franckecicius, Furey-Greig, Hall, Harris, Izokh, Johnston, Kozur, Lehnert, Leslie, Löfgren, Männik, Mawson, McCracken, Miller, Molloy, Nicoll, Nowlan, Percival, Poole, Purnell, Pyle, Repetski, Sansom, Seo, Serpagli, Shaw, Simpson, Smith, Sweet, Talent, Tarabukin, Viira, Wang Zhi-hao, Zhang, Zhen

**C. Silurian.** Aldridge, Bardashev, Barnes, Barrick, Benfrika, Bikbaev, Bradley, Bultynck, Corradini, Donoghue, Furey-Greig, García-López, Hall, Harris, Jeppsson, Kleffner, Kozur, Kuglitsch, Lehnert, Männik, Mathieson, Mawson, McCracken, Miller, Molloy, Nicoll, Norby, Nowlan, Poole, Pyle, Sansom, Sanz-López, Serpagli, Simpson, Snigireva, Sweet, Talent, Viira, Wang Cheng-yuan, Wickström, Zhang

**D. Devonian.** Bardashev, Belka, Bender, Benfrika, Bikbaev, Boncheva, Bradley, Bultynck, Corradini, Donoghue, García-López, Gholamalain, Girard, Hairapetian, Harris, Izokh, Johnston, Klapper, Kozlova, Kozur, Luppold, Mathieson, Mawson, McCracken, Metcalfe, Miller, Morrow, Narkiewicz, Orchard, Over, Percival, Perri, Piecha, Poole, Rogers, Sandberg, Sanz-López, Savage, Snigireva, Spalletta, Talent, Tarabukin, Uyeno, Wang Cheng-yuan, Weddige, Yolkin, Zhuravlev, Ziegler

**E. Carboniferous.** Bardasheva, Barrick, Belka, Bender, Blanco Ferrera, Boncheva, Corradini, Dong, García-López, Groessens, Harris, Hisayoshi Igo, Izokh, Jones, Kozur, Krumhardt, Lambert, Luppold, Mawson, Méndez, Merrill, Metcalfe, Miller, Norby, Orchard, Park, Perret-Mirouse, Perri, Piecha, Poole, Purnell, Rexroad, Sandberg, Sanz-López, Savage, Spalletta, Stoppel, Sudar, Talent, Tarabukin, Wang Cheng-yuan, Wang Zhi-hao, Zhuravlev, Ziegler

**F. Permian.** Harris, Hisaharu Igo, Isozaki, Kozur, Lambert, Mei, Metcalfe, Nicoll, Orchard, Park, Paull, Perri, Poole, Ruppel, Sudar, Wang Cheng-yuan, Wang Zhi-hao, Yao, Zhuravlev

**G. Triassic.** Barnes, Budurov, Harris, Hisayoshi Igo, Ishida, Isozaki, Kiliç, Klets, Koike, Kolar-Jurkovsek, Kozur, Luppold, Márquez-Aliaga, Mastandrea, Mei, Metcalfe, Nicoll, Nicora, Önder, Orchard, Paull, Perri, Petrunova, Pevny, Plasencia-Camps, Ramovs, Sudar, Wang Cheng-yuan, Wang Zhi-hao, Yao

**H. Palaeobiology.** Aldridge, Armstrong, Buryi, Conway Morris, Donoghue, Girard, Plasencia-Camps, Purnell, Sansom, Smith, Szaniawski, Wickström, Zhuravlev, Ziegler

**I. CAI.** Benfrika, Boncheva, Budurov, García-López, Girard, Kolar-Jurkovsek, Narkiewicz, Pondrelli, Smith, Sudar, Tarabukin, Zhuravlev

**J. Geochemistry.** Armstrong, Barnes, Belka, Bradley, Donoghue, Kuglitsch, Nowlan, Ruppel

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## RESEARCH REPORTS

**Guillermo L. Albanesi.** I am currently working on diverse aspects of conodont faunas from Ordovician basins of western and northwestern Argentina. I continue to work with Gladys Ortega on conodont-graptolite ties to accomplish regional biostratigraphic schemes and intercontinental links. Particular interest is being devoted to the Cambrian-Ordovician boundary interval, and inter-Series boundaries from the Ordovician System. I am involved in several projects with colleagues from different universities in Argentina, and applying for new projects with foreign Panderers. One of the main duties as Secretary of the International Subcommission on Ordovician Stratigraphy (IUGS) is to produce "Ordovician News" (<http://ceor.seos.uvic.ca/ordovician>).

**Richard J. Aldridge.** The last year has seen the publication of papers on conodont relationships with other agnathans (with Phil Donoghue and Peter Forey), terms for conodont orientation and anatomical notation (with Mark Purnell and Phil Donoghue), and Ludlow episodes and events (with Lennart Jeppsson), plus one or two things not primarily related to conodonts. My research continues on various aspects of conodont

palaeobiology and evolutionary intrarelationships, primarily with Mark and Phil, but also involving a study of Silurian ozarkodinids with Lennart. Additionally, I am making slow, but real, progress on work on Silurian conodonts of South China (with Wang Cheng-yuan) and of Britain. I can also report that Steph Barrett successfully completed her thesis on prioniodontid conodonts in 2000 and is now training to be a teacher (what she always wanted to do). The year was enlivened by visits from Lai Xulong, Chris Barnes, Jerzy Dzik, Peter von Bitter and, briefly, Dong Xiping; we are always pleased to see conodont workers at Leicester if you are ever passing our way!

**Howard A. Armstrong.** Over the past year I have been finalising a paper on the paratectonic Caledonides and the second edition of "Microfossils". Conodont work has included the geochemistry of single conodont elements and histology and growth of coniform taxa. Preliminary results on from a new project on the biogeography and palaeoecology of Upper Ordovician conodonts from the Iapetus Ocean will be presented at the Lyell Meeting.

**Gabriella Bagnoli.** I am working on biostratigraphy and biofacies of conodonts and acritarchs from Baltic regions.

**Igor A. Bardashev.** I am actively working on Silurian and Devonian conodonts from Central Asia. In April-June I worked with K. Weddige and W. Ziegler in Frankfurt on a monograph on "Phylomorphogenesis of some Early Devonian platform conodonts".

**Nina P. Bardasheva.** I am actively working on Carboniferous conodonts from Central Asia. In June I was in Frankfurt with I. Bardashev and W. Ziegler to begin work on an article on conodonts and stratigraphy of the Lower Carboniferous of the Shishkat section.

**Chris Barnes.** I continue to expand field-based Lower Paleozoic conodont studies in the Canadian Cordillera. Detailed platform to basin transects have been sampled in the southern, central and northern Rocky Mountains (with Lee McKenzie McAnally and Leanne Pyle as Ph.D. students; Leanne is now a PDF on this project). The stratigraphic framework has been described in one paper in 2000 and another submitted; two papers are submitted on the conodont faunas. The central Rockies transect involved remote alpine field work in 1998 and 1999. Jianqin Chen is nearing completion of his Ph.D. work in Ordovician conodonts from North and South China. Shunxin Zhang is mid-way through a PDF project using my extensive conodont database to relate conodont biostratigraphy, biofacies and biogeography to the pattern of eustasy and tectonism that affected northern Laurentia in the early Paleozoic. We have completed some taxonomic and biostratigraphic work on Llandovery conodonts from Anticosti Island, Quebec and some paleoecologic studies of the entire sequence (one paper in 2000 and four submitted). Guillermo Albanesi completed a PDF in late 1999 and I am collaborating with him on some work on Ordovician conodonts from Argentina (one paper in 2000). Jianhua Zhang completed a PDF in 2000 describing the Ordovician conodonts from the Late Ordovician Stokes Siltstone, Amadeus Basin, Australia (paper submitted). David Jowett completed his M.Sc. on the well preserved Llandovery to lower Ludlow conodont faunas of the Cape Phillips Formation (slope facies), Arctic Islands. Work completed, nearing completion or in process includes: Ashgill conodonts (Whitland section, South Wales with Annalisa Ferretti; Nd isotope work (with Cindy Wright and Stein Jacobsen, one paper in press, one in preparation); and Ordovician conodonts of Tarim Basin, China (2 papers in preparation with Zhixin Zhao). Separate related projects deal with ichthyoliths: from the Llandovery of the Arctic Islands (with Sue Turner) and Triassic of the Canadian Cordillera (with Marji Johns). I am currently enjoying a year's sabbatical leave (July 2000-June 2001).

**James E. Barrick.** This last year Peep Männik and I have been studying Silurian oceanic events using conodont faunas, funded by a grant from the National Research Council (Twinning Program; USA). This program permitted me to spend three weeks with Peep in Estonia and a week with Lennart Jeppsson in Sweden. During the hottest weeks of the past summer Peep visited Lubbock, but we still managed to do some fieldwork in Oklahoma, despite the heat. This next year (2001), Peep will visit Lubbock during the spring (for dust storms?), and I will return to Estonia and Sweden for another visit during the first part of the summer. Research on Pennsylvanian conodont continues. In the fall, I was

able to attend a meeting of Middle-Upper Pennsylvanian boundary working group. In addition to making some important decisions about conodont faunas across the boundary interval with colleagues from Spain (Carlos Mendez), Russia (Natalia Goreva), Ukraine (Tamara Nemyrovska), Germany (Holger Forke), and the US (Darwin Boardman; Phil Heckel; Lance Lambert), we were all treated to a field trip to the Picos de Europa and to a Pennsylvanian carbonate shelf margin that is well-exposed in the sea cliffs along the northern coast of Spain.

**Jeff Bauer.** I am progressing slowly on my manuscript concerning Ordovician conodonts from the Joins and Oil Creek formations in Oklahoma.

**Zdzislaw Belka.** I am currently working on Early to Late Devonian conodonts from the eastern Anti-Atlas, Morocco. This study focuses on high-resolution quantitative biostratigraphy and on rare earth element and strontium isotope chemistry of conodont elements. Other projects include studies of Devonian and Carboniferous conodonts from Iran and CAI studies in Devonian rocks of southern Algeria.

**Peter Bender.** I am working on conodont faunas from the Devonian and Carboniferous of the Rheinisches Schiefergebirge (Lahn-Dill-area).

**El Mostafa Benfrika.** I continue to work on Silurian and Devonian conodonts from Moroccan Meseta (systematic, stratigraphy and C.A.I.).

**Alexander Z. Bikbaev.** I am studying lithology, paleochronology, facies and conodonts of Silurian and Devonian deposits in the Urals.

**Silvia Blanco Ferrera.** I am working on my Ph.D project on the conodont biostratigraphy and CAI of the Carboniferous in the Picos de Europa Unit (NW Spain).

**Iliana A. Boncheva.** I continue to work on Paleozoic (Devonian and Carboniferous) conodonts from deep boreholes in Northern Bulgaria (taxonomy, biostratigraphy, paleotemperatures, colour and textural alterations of the conodonts) in connection with hydrocarbon exploration and low-temperature mineralization.

**Dwight C. Bradley.** I am a stratigraphically oriented tectonicist with an interest in conodonts, and new to the Pander Society. I have worked extensively with Anita Harris in the past five years, beginning with a study of the Acadian collisional orogeny of the northern Appalachians (Ludlow-Givetian). New conodont collections from Maine provide several tight new age constraints on the onset of Acadian foreland-basin sedimentation. In a related effort to better calibrate the Devonian time scale, which involved Bob Tucker (zircon geochronology), Anita Harris, and several others, we obtained new concordant U/Pb ages from tephra and volcanics in the Lochkovian, Emsian, Eifelian, Frasnian, and Famennian. During the past few years I've been working on unravelling the older tectonic history of Alaska's jumble of terranes. Anita Harris, Julie Dumoulin, and I are just wrapping up a study of the Nixon Fork carbonate platform. Ordovician conodonts from here are a mixed bag of Siberian and Laurentian forms - quite distinct from the western Canada passive



margin where the Nixon Fork once was thought to have originated. With Robert Ayuso, we are analysing neodymium isotopes of conodonts from the Nixon Fork and various other circum-Arctic carbonate platforms, focusing on two Ordovician conodont zones. The goal is to find out which of these now widely dispersed areas coexisted in the same bodies of seawater.

**Kiril Y. Budurov.** My research is concentrated on the following main topics: better definition of Middle Triassic stages and substages and their boundaries based on conodonts; and, beginning in 2001, the preparation of maps for conodont colour in several substages of the Triassic, aiming at the elucidation of Triassic palaeogeodynamics in Bulgaria and the Balkan Peninsula (planned to be finished in 2002).

**Pierre Bultynck.** I am working on Lower and Middle Devonian and Frasnian conodonts from Belgium and Southern Morocco. In collaboration with Graciela N. Sarmiento, I am involved in the study of an Ordovician-Silurian-Lower Devonian conodont fauna from the Safi area (Morocco) and on Ordovician conodonts from the Central Pontides (Turkey).

**Galina I. Buryi.** Galina I. Buryi and A.P. Kasatkina report that they have found the first living conodont animal, *Panderiella viva*.

**Simon Conway Morris.** I maintain my interest in the early evolution of chordates, including conodonts.

**Carlo Corradini.** I'm working on the Silurian and Lower Devonian of the Carnic Alps, on the Silurian to Lowermost Carboniferous of Sardinia and on the Upper Devonian of Morocco.

**Dong Xiping.** I continue to work on Middle Cambrian through lowermost Ordovician conodonts from Hunan, South China and the Cambrian, Ordovician, Carboniferous conodonts from Liaohe Basin, Northeast China. I have another Grant (2001.01-2003.12) to work on the Cambrian through lowermost Ordovician conodonts from Eastern Anhui and Western Zhejiang, South China.

**Philip C. J. Donoghue.** I am still in the process of writing up work on conodont histochemistry; its failure to appear before now is due to sheer laziness and other commitments. The past year has seen publication of the cladistic analysis of conodont interrelationships in *Biological Reviews* (Donoghue, Forey & Aldridge 2000), and a paper setting out new orientational terms for use in recognising homologies within and without conodont apparatuses (Purnell, Donoghue & Aldridge 2000). I have also completed a manuscript on the relationships of palmatolepids, based on cladistic analysis, and this should appear in *Palaeontology* before the newsletter is released (Donoghue 2001). Please be gentle! Meanwhile, myself, Mark Purnell, Dick Aldridge (both Leicester), and Zhang Shunxin (Victoria), are working on an analysis of the intrarelations of 'complex' conodonts (i.e. the orders Prioniodontida, Prioniodinida and Ozarkodinida *sensu* Sweet 1988) that is springing up a few surprises with regard both to relationships and recognising element homologies between taxa. The resulting tree is also proving useful in recovering trends in the evolution of crown tissue and patterning amongst complex conodonts. At the same time, I have been

working on my fishy themes of skeletal evolution amongst the chordates, chopping up heterostracans, anaspids, osteostracans and thelodonts. I also have a new Ph.D student, Linda Wickström (co-supervised by Aldridge and Armstrong), who is working on a cladistic analysis of conodont relationships through the end Ordovician extinction event and on through the Silurian. The main aim of the project is to examine the effects of major and minor extinction events upon phylogenetic trees, but will also address issues such as the completeness of the conodont fossil record, homology and homoplasy in the evolution of feeding amongst conodonts, as well as testing some of the predictions and/or assumptions of the P+S oceanic cyclicity model.

Mark Purnell and I are also busy organising a thematic session on the quality of the conodont fossil record as part of ECOS VIII, France. Mark and I will shortly be inviting speakers to take part and we would welcome any others that are interested in contributing. Simultaneously, Paul Smith and I are organising a symposium for the Systematics Association Biennial meeting in London, September 2001, on the topic of telling evolutionary time: molecular clocks versus the fossil record. It should prove to be an excellent meeting with many big names from both sides of the debate. So 2001, should prove to be just as busy and interesting as 2000!

**Annalisa Ferretti.** Work continues on Late Ordovician conodonts, mostly from Southern Europe. I have focused my attention, this year, on new conodont faunas from the Austrian Carnic Alps (with H.P. Schönlaub). We were finally able to document the *Amorphognathus ordovicicus* Zone and preliminarily report a Hirnantian fauna, composed of about twenty species, from the Cellon Section.

**Marekas Franckevicius.** I am actively working on early Ordovician conodonts from Lithuania.

**Terry Furey-Greig.** Having successfully completed my Ph.D on the Late Ordovician-Early Silurian (mainly allochthonous) of the Tamworth Belt, I am now working part-time on other, previously neglected, Late Ordovician-Early Silurian occurrences (autochthonous and allochthonous) in easternmost Australia with Ruth Mawson, Peter Molloy, Andrew Simpson and John Talent.

**Susana García-López.** I am working on conodonts from the Silurian to lower Carboniferous, mainly focusing on biostratigraphy and biofacies topics. I continue actively working in projects dealing with CAI research in the Cantabrian Zone and Pyrenees (NW and NE of Spain), too. I hope to be busy a time because I will be preparing the ECOS VIII and will be learning English language.

**Hossein Gholamalian.** I am working very hard on the Frasnian/Famennian boundary for my Ph.D thesis. I have two sections in Central Iran Esfahan and Tabas areas. Geological sampling and conodont collection in the Esfahan section is going will finish by the end of winter and sampling from Tabas area will be done in the winter and next spring.

**Catherine Girard.** I am actively working on Devonian conodonts from the Montagne Noire (France) and the western Meseta (Morocco). Work also continues on size and shape analyses of conodonts and trace elements in

conodont phosphate at the Frasnian/Famennian boundary.

**Eric Groessens.** I am still interested in Uppermost (Strunian) and Lower (Tournaisian-Viséan) Carboniferous stratigraphy and conodonts. Luc Hance (who left the Survey for Carmeuse) and I have a student, F-X. Devuyst, at the University of Louvain-la-Neuve, who is working on a doctorate on the sequence stratigraphy of the Belgian Dinantian, focusing on Tn/V boundary problems.

**Vachik Hairapetian.** I have two submitted papers, on Famennian microvertebrates from the Dalmeh section and on Devonian vertebrate biostratigraphy in central Iran. Work also continues on conodont and microvertebrate faunas in Late Devonian (especially Famennian) successions of central Iran with Dr. John A. Long. Dr. Michal Ginter and I are starting to work on some chondrichthyans and their biofacies in the Dalmeh and Howz-e-Dorah sections, central Iran. I continue an active interest in IGCP 421 and IGCP 406.

**Jack C. Hall.** It has been a slow year for conodont studies here at UNCW. Since taking over the Environmental Studies Program time is at a premium. I continue to plough slowly through samples from the Ordovician and Silurian of the southern Appalachians and hope to get back into it more next year. A highlight for me this year was publishing two abstracts with my son (he was first author!) on sedimentology and longshore transport on North Carolina beaches.

**Anita G. Harris.** I am now involved in studies of very Late Cambrian through Triassic conodonts and the rocks that contain them; life was not complex enough so added Late Cambrian, Permian, and Triassic conodonts to my overflowing picking tray. My studies continue and expand mainly in several areas of Alaska, Nevada, and northern Mexico. My co-workers are mainly U.S. Geological Survey geologists including other retirees and those still on the government payroll. About half my professional (as opposed to amateur) time involves consulting work with industry - working out the biostratigraphy of core and cuttings samples.

**Hisaharu Igo.** I am actively working on Permian conodonts and fusulinaceans from Japan.

**Hisayoshi Igo.** I am working on Triassic conodonts from Thailand and Malaysia, and Carboniferous conodonts from the Chichibu Mountains, Japan.

**Steve Irwin.** I am Geological Survey of Canada, Vancouver conodont laboratory manager and curator, overseeing and managing the operations of the paleontology laboratory including, technical, database, and SEM.

**Keisuke Ishida.** I am working on Triassic conodonts from SW Japan in collaboration with F. Hirsch. I am also interested in Upper Paleozoic material from the Melange blocks of SW Japan.

**Yukio Isozaki.** I am currently working on the Permo-Triassic boundary sequences of deep-sea and shallow-water facies in Japan and South China, using conodonts, radiolarians and chemostratigraphic analyses.

**Kirill S. Ivanov.** I work on tectonics, geodynamics, structural geology, and conodont biostratigraphy of Paleozoic deposits of different regions.

**Nadya G. Izokh.** I continue to study Ordovician - Lower Carboniferous conodonts from the Altai-Sayan folded area, with the main interest being in the Middle Ordovician/Lower Devonian sections of Tuva.

**Lennart Jeppsson.** I continue working with Silurian conodonts, stratigraphy and oceanic changes that affected both conodonts and non-conodonts. Nearest to completion are manuscripts on the mid Homerian Mulde Event, the mid late Ludfordian Lau Event, and a revision of the *O. s. rhenana* Zone strata on Gotland.

**David I. Johnston.** I am not doing conodont research at the present time. However, I have two papers in press. One is on the systematic paleontology of Early to Middle Ordovician conodonts from the Cow Head Group, western Newfoundland, Canada (with Chris Barnes; Part 2 of a paper published by us in *Geologica et Palaeontologica* in 1999). The other is a taxonomic monograph on Late Devonian (Famennian) conodonts from the Palliser Formation and Wabamun Group, Alberta and British Columbia, Canada (with Brian Chatterton; to be published as *Palaeontographica Canadiana* 19 in 2001). I am still trying to get around to completing a manuscript on the paleoecology of the Palliser and Wabamun conodonts.

**Gareth Ll. Jones.** I am actively working on Dinantian conodonts from Ireland, mostly in a commercial biostratigraphic way.

**Ali Murat Kiliç.** I have recently gone back to conodont research (on Triassic conodonts from the Western Taurids and Kocaeli Peninsula with Prof. Önder and Prof. Gedik) after recovering from a serious illness.

**Gilbert Klapper.** I am presently engaged in the preparation of five papers: 1) with Tom Uyeno on a Frasnian-lower Famennian conodont sequence from the Onakawana B core in Ontario, 2) with Bill Kirchgasser on the Frasnian conodont sequence in western New York, 3-4) two papers on the biostratigraphy and taxonomy of the Frasnian-lower Famennian conodont sequence in the Canning Basin of Western Australia, and 5) with Claudia Spalletta and Cristina Perri on the Frasnian-Famennian boundary sequence at Pramasio in the Carnic Alps. Shape (outline) analysis of Frasnian conodonts continues with Catherine Girard.

**Mark A. Kleffner.** I am currently still working on a manuscript on the latest revision of a conodont-, graptolite-, chitinozoan- and event-based Silurian chronostratigraphy (with James Barrick), which should be completed early this year. I am finally able to use my new lab facilities in the new science building I moved into during mid-1999. Most of the samples I am processing relate to refining the Lower Silurian stratigraphy of Ohio and Kentucky.

**Tatyana V. Klets.** I study Triassic conodonts of North-Eastern Asia.

**Toshio Koike.** I have continued work on the reconstruction of apparatuses of Triassic Gondolellidae and Ellisonidae from Japan.

**Tea Kolar-Jurkovsek.** I am continuing to work with Bogdan Jurkovsek on the Triassic biostratigraphy of Slovenia with special interest in Early Triassic (Smithian) and Late Triassic (Carnian, Norian) faunas. Other ongoing projects include studies on Triassic conodonts (stratigraphy and CAI) of Croatia in collaboration with Tonci Grgasovic, Josip Halamic and Ladislav Palinkas.

**Natalia Kozlova.** I am actively working on the Frasnian conodonts from the Northwest part of Russia.

**Heinz W. Kozur.** I am actively working on Pennsylvanian, Permian and Triassic conodonts worldwide (taxonomy, biostratigraphy, biofacies, provincialism); and on the biostratigraphy of Cambrian, Ordovician, Silurian, Devonian, and Carboniferous conodonts of Turkey.

**Andrea Krumhardt.** I spent 3 weeks in July of 2000 collecting conodont samples from the Carboniferous Lisburne Group in the northeast Brooks Range with graduate students and professors from the University of Alaska Fairbanks. Most of the samples have yielded only Mississippian conodonts to the point that I wouldn't even mind seeing *Idiognathodus* again. Ok, maybe just *Declinognathodus*. And though the rest of you may think that it's nothing to sneeze at, my remaining time is spent processing and identifying Quaternary pollen from various localities around the world.

**Jeff Kuglitsch.** I have completed my dissertation under the supervision of David L. Clark at University of Wisconsin-Madison: Correlation of the Silurian rocks of southeastern and northeastern Wisconsin using conodonts and conodont strontium isotope ratios and proposed conodont and ostracode biofacies models for the environs of the middle Aeronian Michigan Basin.

**Lance L. Lambert.** I am actively working on Early Permian conodonts from west Texas in collaboration with Steve Ruppel; Late Permian conodonts, mostly from North America, in collaboration with Bruce Wardlaw, Merlyn Nestell, and others; and Middle Pennsylvanian (Upper Carboniferous) conodonts worldwide, largely in association with Jim Barrick, Darwin Boardman, Phil Heckel, and others. I have additional ongoing projects in which conodonts play roles to varying degrees.

**Oliver Lehnert.** My project continues on Cambro-Ordovician conodonts from the dolomite successions of the southwestern Great Basin. With John Cooper (CSU Fullerton) I am still working on sequence stratigraphy in the Ordovician Pogonip Group and Eureka Quartzite of southern Nevada and eastern California and trying to provide a useful biostratigraphic framework. Recent studies concentrate mainly on sections in Death Valley National Park and the Inyo Mountains (California). With Werner Buggisch (Erlangen, Germany) I also sampled several Cambro-Silurian sections of the southern Great Basin for carbon isotope studies, and I am working on some material from glacial erratics in northern Germany, and on microfossils associated with conodonts in heavy residues together with colleagues and friends from different countries. Last fall Godfrey Nowlan and I had a look at allochthonous faunas from Tertiary and Cambro-Silurian sections of Ellesmere

Island (Canadian Arctic) at the Canadian Geological Survey (Calgary).

**Stephen A. Leslie.** I am continuing research on conodont biostratigraphy, sequence stratigraphy, and event stratigraphy of the Middle and Upper Ordovician on the southern margin of the Ozark Dome in Northern Arkansas. I am currently using conodont graphic correlation as a means to determine the timing and duration of unconformities. I hope that this will provide insight into whether some of the sea level change recorded in Middle and Upper Ordovician rocks in Northern Arkansas was caused by local uplift of the Ozark Dome, or if the sea level change was regional to eustatic in nature. To aid in correlation I am continuing to search for event beds such as K-bentonites. So far this search has only yielded two beds, one near the base of the Plattin Limestone and one near its top, that are likely K-bentonite beds based on XRD. In addition to work in the Middle and Upper Ordovician I am working with Loren Babcock on the Cambrian "explosion" and with Andy Karam on the effects of background radiation on the evolution of early life.

**Anita Löfgren.** I am actively working on lower Llanvirn conodonts and sections from Sweden, a task that is also budding off some taxonomic work. Having submitted a manuscript on the Mäekalda section in Estonia (in cooperation with Viive Viira and two other female co-authors), I have just started working with Viive Viira on the early Arenig conodont faunas of Cape Pakri, also in N Estonia. I also continue cooperation with Tania Tolmacheva on early Arenig taxa in Russia and Sweden.

**Friedrich W. Luppold.** I am actively working on Devonian (Eifelian-Frasnian) conodonts from the Harz-Mountains (Okerstausee) together with Buchholz (TU-Braunschweig, sedimentology, geology) and Stoppel (BGR, conodonts). Activities on Upper Carboniferous conodonts from the Carnic Alps and on Middle Triassic conodonts from the Germanic Basin continue.

**Peep Männik.** I am actively working on the evolution, ecology and taxonomy of Ordovician and Silurian conodonts from Baltic, Arctic regions and Siberia, and on conodont-based high-resolution stratigraphy. Joint studies of the evolution of Silurian conodont faunas (with L. Jeppsson from Lund; Sweden), and distribution of conodonts, graptolites (with Dr. D. Loydell from Portsmouth, U. K.) and chitinozoans (with Dr. V. Nestor from Tallinn, Estonia) are going on. A joint project with James E. Barrick (Texas Tech University) "Evaluation of proposed Silurian global oceanic episodes and events using conodonts" continues. In June, J. E. Barrick visited Tallinn and Lund to study Silurian conodonts from Baltoscandia, and in August-September I visited Lubbock to study conodonts from southern United States. Together with Mark T. Harris (Wisconsin-Milwaukee University), Peter M. Sheehan (Milwaukee Public Museum), and several colleagues from Estonia a three-year project "Collaborative research: comparing Upper Ordovician-Lower Silurian carbonate platform in Estonia and Great Basin: a test of the synchrony of sequences and faunal changes" has been started. In 2000, our team studied several Upper Ordovician-Lower Silurian sections in Utah and Nevada. Collaborative studies (together with colleagues from Vilnius, St Petersburg, Syktyvkar, Ukhta, Novosibirsk, etc.) of the

evolution and high-resolution stratigraphy of the Early Palaeozoic sedimentary basins in northern Baltica and Siberia palaeocontinents are going on.

**Ana Márquez-Aliaga.** I am actively working on Triassic conodonts from Spain.

**Adelaide Mastandrea.** I am actively working on Late Norian to Rhaetian conodonts from Calabria (Southern Italy) and I am still working on Ladinian /Carnian conodont biostratigraphy of the Dolomites.

**David Mathieson.** I am working on the numerous shallow-water carbonate intervals in the predominantly clastic Late Silurian-Early Devonian sequences of western New South Wales.

**Ruth Mawson.** I continue working on various Devonian and Early Carboniferous faunas from eastern Australia with John Talent, and Spiti (India) with Erich Draganits and Leo Krystyn, and am also involved with Peter Molloy, Andrew Simpson Terry Furey-Greig and John Talent on a selection of Late Ordovician-Early Silurian occurrences (autochthonous and allochthonous) in easternmost Australia.

**Sandy McCracken.** I am back to work on Middle-Late Ordovician conodonts from Akpatok Island, and Late Ordovician-Early Silurian from Cornwallis Island, Nunavut (formerly Northwest Territories). Still dabbling in Devonian.

**Mei Shilong.** I am actively working on Permian and Lower Triassic conodonts from South China and Canada, in collaboration with Charles M. Henderson. I have started to work on GIS and its application in establishing visualized databases in Geology, especially in Stratigraphy and Paleontology.

**Carlos A. Méndez.** I am investigating Carboniferous conodonts (Serpukhovian to Gzhelian) in the Cantabrian Mountains (North Spain). A project on the biostratigraphy of Upper Moscovian-Lower Kasimovian strata in the same area is making progress. I am involved in preparation of the pre-Symposium Ecos VIII Field Trip Excursion.

**Glen Merrill.** I am currently working mostly on Pennsylvanian conodonts from SE Ohio, but am also involved with Peter von Bitter on a couple of ongoing studies as well as with Carl Rexroad and Lew Brown and others on one that is due out any day. There are a few other projects farther over the horizon, but these may eventuate in the fairly near future.

**Ian Metcalfe.** I continue to work (with Bob Nicoll) on conodonts from the Permian-Triassic boundary stratotype and parastratotype sections at Meishan, Zhejiang Province, and also the Shangsi section, Sichuan Province, China. This work forms part of a multidisciplinary study of the Permian-Triassic boundary and Mass Extinction in China (Marine & Non-Marine) involving integrated Isotope Geochronology, Biostratigraphy, Chemostratigraphy and Magnetostratigraphy. Papers describing *Hindeodus* and *Isarcicella* conodont species and evolution from this interval are at an advanced stage of preparation. Work on Devonian, Carboniferous, Permian and Triassic faunas from Malaysia and Indonesia continues in

parallel with P-T boundary work and work on the tectonic evolution of East and Southeast Asia.

**C. Giles Miller.** I have not had much time for publishing on conodonts this year following my appointment to a permanent curatorial position at The Natural History Museum in January 2000. However, I collected Ordovician-Carboniferous conodont samples from sections on the Kozhym River in July 2000 and hope to have processed these samples by early 2001.

**Peter Molloy.** I am working on Middle Palaeozoic material from Chitral (Pakistan) collected in May 2000, and concurrently, with Ruth Mawson, Andrew Simpson, Terry Furey-Greig and John Talent, on a selection of Late Ordovician-Early Silurian occurrences in easternmost Australia; this includes closely sampling my way through the Irevekin Event at Boree Creek, New South Wales.

**Jared R. Morrow.** I am continuing to study Upper Devonian conodonts from the Great Basin, Nevada and Utah, USA, with emphasis on the Frasnian-Famennian boundary event stratigraphy and on further constraining the effects of the mid-Frasnian Alamo Impact Event.

**Katarzyna Narkiewicz.** I continue biostratigraphic studies of the subsurface Middle Devonian in SE Poland and of the Triassic in the Polish Lowlands. I have just completed a paper on Muschelkalk conodonts from the subsurface of the Polish Lowlands. I also continue CAI studies. I have submitted (as co-author) a paper on thermal maturity and burial history of the Devonian to Permian sediments in the Tarnawa - Liplas area of the Polish Carpathians.

**Robert S. Nicoll.** I am currently splitting my time between the Permian-Triassic and the Ordovician, and have a little Silurian stuff thrown in on the side. Permian-Triassic boundary material from China is nearly ready for publication and with various co-authors papers on *Oepikodus* and *Rhipidognathus* are either submitted or are in press. I have a small grant from the Australian National University (Canberra) to collect Permian material from the Canning Basin in Western Australia.

**Alda Nicora.** I am actively working on conodonts of the Middle and Upper Triassic of the Southern Alps, Upper Triassic of Sicily (Italy), Hydra Island (Greece) and Spiti (India). I am especially involved in studies concerning boundary problems: Olenekian/Anisian in Romania and Greece, Anisian/Ladinian in Southern Alps and Ladinian/Carnian in the Himalaya.

**Rodney D. Norby.** I am still working with Peter von Bitter and Robert Stamm on the Mississippian conodont *Lochriea*. I am continuing to work on Mississippian conodont biostratigraphy of Illinois and when time permits, some work progresses on Silurian conodonts of Illinois and southeastern Wisconsin with Mark Kleffner, Don Mikulic and Joanne Kluessendorf.

**Godfrey S. Nowlan.** I am actively working on a number of projects: 1, Conodonts from Cambro-Ordovician Deadwood Formation in Saskatchewan and North Dakota; 2, Conodont biostratigraphy and biofacies related to neodymium and carbon isotope signatures (with C. Homden, University of Saskatchewan) with the

objective of tracking sea level on the North American craton during the Middle to Late Ordovician. We have recently completed a manuscript on sections in the subsurface of Iowa and Saskatchewan for *Geochimica et Cosmochimica Acta*. We have also applied for funding to extend the project geographically and stratigraphically; 3, I have recently completed (with Denis Jackson and Brian Norford) a study of the graptolites and conodonts of the Glenogle Formation in southern British Columbia (this is in press as a *GSC Bulletin*); 4, Another recently completed study is a contribution on conodont biostratigraphy to a *GSC Bulletin* on Prince of Wales Island and adjacent areas in the Canadian Arctic, Nunavut (Mayr *et al.*); 5, As Secretary of the International Cambro-Ordovician Boundary Working Group, I am completing the work necessary to erect a marker and interpretive sign for the Green Point section in western Newfoundland; 6, Currently working on an Ordovician-Silurian rocky shoreline section on Hudson Bay near Churchill, Manitoba (with Bob Elias and Graham Young). This study involves detailed biostratigraphy as an aid to mapping the rocky shoreline; 7, Working jointly with Oliver Lehnert (University of Erlangen) on a study of clasts in a Tertiary conglomerate on eastern Ellesmere Island; 8, Conodont biostratigraphy of Cambrian to Silurian strata of eastern Ellesmere Island in support of geological mapping by K. Dewing and U. Mayr; 9, Continuing biostratigraphic service work on Cambrian, Ordovician and Silurian conodonts from all over Canada.

**Fuat Önder.** I am investigating Triassic conodont faunas from autochthonous sequences (rocks locally are low-grade metamorphosed limestones) in Western Turkey. I also supervise Ali Murat Kiliç in his Ph.D. on Turkish Triassic conodonts from the Kocaeli Peninsula.

**Mike Orchard.** I continue my primary research on Triassic conodont biochronology and multielement taxonomy, with current emphasis on Middle Triassic boundaries. Complementary studies embrace Devonian, Carboniferous, Permian, and Triassic conodont faunas from accreted terranes of the Cordillera.

**Jeffrey Over.** Work continues on conodont stratigraphy of Upper Devonian strata in central-eastern North America with focus on "black" shales, sequence stratigraphy, correlation between basins, and the Frasnian-Famennian boundary. Projects are in progress to correlate New York State brachiopod faunas to conodont zones and to compare Appalachian Basin strata to the Western Canadian Platform.

**Susan Owen.** I am still interested in conodonts. I am currently working for the usda forest service as a GIS specialist in Potosi, MO.

**Soo-in Park.** I am actively working on Carboniferous and Permian conodonts from South Korea.

**Rachel Paull.** I work slowly on data analysis from about 220 sample locations across the Permian-Triassic boundary up into the Smithian in the Rocky Mountains, eastern Great Basin, and Colorado Plateau of the western United States. Besides conodont biostratigraphy, depositional history over the region is a major interest.

**Ian Percival.** I continue to concentrate on Ordovician conodonts from the central Lachlan Fold Belt of New

South Wales. Two papers (written with senior author Yong-yi Zhen and others) describing aspects of an Early Ordovician (Arenig equivalent) conodont fauna from the Hensleigh Siltstone were submitted during the year, and are scheduled to appear in *Journal of Paleontology* and *Courier Forschungsinstitut Senckenberg* early in 2001. Another project (finally in press, as an *AAP Memoir*) is a substantial book chapter on Ordovician biogeography of Australasia, compiled by Barry Webby and colleagues; a section of this review deals with biogeographic affinities of all Ordovician conodont faunas known from Australia and New Zealand. Moving up the column, I contributed details of Early Devonian conodonts to a paper (accepted for *Alcheringa* in 2001) on biostratigraphy of the Hill End Trough succession. Currently, I am writing up conodont assemblages of Darriwilian to Late Ordovician age from deep water cherts in central and southern New South Wales, in two separate collaborative projects.

**Marie-France Perret-Mirouse.** I am actively working on Carboniferous conodonts from the Pyrenees. I am still collaborating with T. Nemyrovska and M. Weyant on a revision of *Lochreia* and I am involved in the organization of ECOS VIII.

**Maria Cristina Perri.** I am continuing to work on Devonian-Early Carboniferous sequences of the Southern Alps in collaboration with Claudia Spalletta. Nearing completion is a manuscript (with Claudia Spalletta, Enzo Farabegoli and Gilbert Klapper) on a stratigraphic section, the first found in the Carnic Alps, spanning the Frasnian-Famennian boundary. Another manuscript, with Claudia Spalletta, considers correlations within the Upper Devonian; this will provide a standard for the Famennian of the Carnic Alps. My research on uppermost Permian-Lower Triassic conodonts from the Southern Alps is making progress. I am also involved in research on Permian-Triassic sequences in Chitral (north-western Pakistan). A manuscript (with Enzo Farabegoli), reviewing conodont biostratigraphy and taxonomy in relation to the Permian-Triassic boundary in the Southern Alps, has been submitted for publication in the AUSCOS-2 volume.

**Lyudmila V. Petrunova.** My research is concentrated on the taxonomy, evolution and biostratigraphy of Triassic conodonts from Bulgaria. I work with Kiril Budurov.

**Jozef Pevny.** I continue working on Anisian to Norian conodonts from pelagic facies and at the boundary with platform facies in central Slovakia.

**Matthias Piecha.** I am working on Devonian and Carboniferous conodonts from the Rhenish Massif. I continue investigations on low temperature (CAI 1-2) Middle and Late Devonian conodonts from the Paffrath Syncline (Bergisches Land, West Germany) and I am still interested in conodont biofacies and hiatuses around the Frasnian/Famennian boundary of the shelf and basinal facies.

**Pablo Plasencia-Camps.** I've just started a Master's Thesis on Triassic conodonts from Spain. Ana Márquez-Aliaga and Nacho Valenzuela-Rios are my research directors, with additional supervision from Francis Hirsch. I'm a biologist and intend to study biological aspects of conodonts. I'm also working on a revision of the Triassic genus *Pseudofurnishius*.

**Monica Pondrelli.** I am continuing CAI analysis of the Paleozoic basement of the Carnic Alps.

**Forrest G. (Barney) Poole.** I am actively working on Middle Ordovician-Upper Mississippian carbonate-shelf stratigraphy in Sonora, Mexico, with Ricardo Amaya-Martinez, William Page and Anita Harris, utilizing conodont ages determined by Harris. In addition, I am actively working on Ordovician-Lower Permian ocean-basin stratigraphy within the Sonora allochthon in central Sonora, utilizing conodont ages determined by Harris, as well as graptolite and fusulinid ages determined by other paleontologists. I am also working on Devonian and Mississippian stratigraphy and sedimentation in the Antler foreland basin of Nevada with Charles Sandberg, utilizing conodont faunas and zonation determined by him.

**Mark Purnell.** At the moment, much of my conodont research seems to revolve around problems of homology. This is building on and applying the work with Phil Donoghue and Dick Aldridge on homology, orientation and notation published last year. The conodont relationships marathon that Phil, Dick, Zhang Shunxin and I have been running for the last few years has been reinvigorated by some new hypotheses of homology and seems to be entering the final straight (but the finishing line has moved before). Work on apparatus structure and homologies in various taxa and with various coauthors is ongoing (some, such as a paper with Tania Tolmacheva on *Paracordylodus gracilis* will finally see the light of day sometime during the next few months). And I still try and keep my hand in with the Carboniferous stuff (a paper on *Taphrognathus* with Peter von Bitter and Eric Groessens was submitted recently). Work on surface wear, damage and function of conodont elements also continues, and has led to some interesting spin-off projects: wear patterns on the mouthparts of heterostracans help to constrain hypotheses of how they fed, and I am currently trying to persuade a bunch of seemingly shy three-spine sticklebacks to do what should come naturally to them in the spring. I will, of course, be looking at the wear patterns on the teeth of their offspring!

**Leanne Pyle.** I am currently working on Ordovician-Silurian conodonts from a platform to basin transect, northeastern British Columbia.

**Anton Ramovs.** I am working on Triassic conodonts from Slovenia.

**John E. Repetski.** I am working primarily on biostratigraphy, but also on all aspects of Cambrian and Ordovician conodonts, and on some other phosphatic problematica, plus on various biostratigraphic problems in other parts of the conodont-bearing column. Most of the work is in the US Appalachians (energy and mapping projects) and Midcontinent (mapping and geohydrology projects), with some additional activities in other parts of North America and elsewhere (related to mapping, minerals, structure, and conodont systematics). Many of these efforts are collaborative with other Panderers.

**Carl B. Rexroad.** I have continued work on a number of projects including especially the Desmoinesian of the Midcontinent U.S.A. with Lew Brown and some of his students and with the cooperation of Lynn Watney of the

Kansas Geological Survey; a project on the conodont biostratigraphy of the St. Louis and Ste. Genevieve Limestones of Middle and Late Mississippian age; also two Late Mississippian projects, one with Joe Devera of the Illinois Geological Survey; and a project on Upper Carboniferous conodonts from Spain with Lew Brown and Carlos Mendez Fernandez.

**Frederick S. Rogers.** Along with Tom Uyeno, Jack Wendte, and Bob Cochrane, I am continuing work on Middle Devonian conodont biostratigraphy of southwestern Ontario. I plan to present the results of our investigations at September's meeting of the Eastern Section of AAPG, to be held at Western Michigan University.

**Stephen C. Ruppel.** I am currently collaborating with Lance Lambert in a linked study of the conodont and fusulinid biostratigraphy, the sequence stratigraphy, and the strontium isotope chemostratigraphy of the Lower Permian (Wolfcampian, Leonardian) of West Texas. At present we are processing samples from both outcrop (Sierra Diablo) and the subsurface (Permian Basin).

**Charles A. Sandberg.** Current interests are Middle to Late Devonian and Mississippian conodont event stratigraphy, extinctions, biofacies, paleoecology, paleobiogeography, and taxonomy. In collaboration with Jared Morrow, I am gathering conodont evidence for a deeper water site of the Alamo Impact and for widespread extent of resultant shock-metamorphosed grains in Nevada. For a geologic map with Barney Poole, I am completing a study of conodonts from the Devonian platform-to-basin transitional sequence in the southern Hot Creek Range, Nevada. I am continuing preparation of revised late Middle Devonian through Late Devonian range charts in collaboration with Willi Ziegler, Roland Dreesen, and Jared Morrow. With Charlie Mason and Dave Work, I am preparing a report on Early Mississippian conodonts of the Borden Delta, Kentucky and southern Ohio.

**Ivan Sansom.** I am currently working on a number of conodont related projects: the apparatus of rastrate panderodontids; the biostratigraphy of Lower Silurian faunas from North China (with Prof N.-Z. Wang IVPP); and studies on middle Ordovician shallow water faunas from North America (with Paul Smith). Papers on the histology of Cambrian para- and euconodonts are in preparation with (the recently doctored) Karen Cochrane, and Paul Smith.

**Javier Sanz-López.** I am working on some aspects of biostratigraphy in North Spain, based on Silurian to Lower Carboniferous conodonts.

**Norman Savage.** I am continuing to work on some Late Devonian faunas from northern Russia in collaboration with Alexandra Yudina; also on some Pennsylvanian faunas from Nevada.

**Kwang-Soo Seo.** I am actively working on Ordovician conodonts from Korea.

**Enrico Serpagli.** I am working on Late Cambrian and Late Ordovician conodonts, mostly from Southern Europe, as well as on Silurian material from Bohemia and the Carnic Alps.

**Tom Shaw.** I continue to work on Lower and Middle Ordovician faunas of the Illinois Basin.

**Andrew Simpson.** I continue work on a number of Ordovician and Silurian projects. A paper on Late Silurian to earliest Devonian conodonts from the Broken River Crossing as part of the latest IGCP 421 volume is due out very soon. A number of manuscripts for the AUSCOS 2 volume are close to finalisation including documentation of a new subspecies of *Ozarkodina*, documentation of a Late Silurian/Early Devonian fauna from Pakistan (with John Talent, Ruth Mawson and Peter Molloy) and documentation of Ordovician and Silurian faunas from a lost carbonate platform in the Georgetown region (with John Talent, Ruth Mawson and Terry Furey-Grieg). Work continues with Lennart Jeppsson comparing Late Silurian conodont faunas from the Broken River region with those of Gotland.

**Paul Smith.** After some time spent working on a) ostracoderms and b) Greenland basins and tectonics, I have now returned to some conodont projects. In particular, Phil Donoghue, John Repetski and I have been working on the apparatus composition and architecture of *Cordylodus*. Ivan Sansom and myself are just finishing off describing Middle Ordovician conodont faunas from the Bighorn Mountains, Wyoming, before turning to those of the Harding sandstone, and together with Jan Audun Rasmussen I have been working on CAI and tectonic overburden estimates in the East Greenland Caledonides. Additional news is that Karen Cochrane recently submitted her Ph.D on Cambrian conodont histology and apparatus composition.

**Maria P. Snigireva.** I work on biostratigraphy, facies, and conodonts of Silurian and Devonian deposits in the Urals.

**Claudia Spalletta.** I am still continuing research on Early Devonian to Late Carboniferous conodonts of the Carnic Alps (Southern Alps, Italy) jointly with M. Cristina Perri. Currently we are focusing our interest on the Frasnian/Famennian boundary and have started collaboration on this topic with Gil Klapper and other colleagues in our Department.

**Dale Sparling.** I am still retired but marginally involved with Sue Turner's study of microvertebrates from residues of Middle Devonian strata from Ohio. Also I am preparing a presentation for the symposium on Paleozoic Bio-events at the N-C GSA and Pander Society meeting at Illinois State in April.

**Dieter Stoppel.** I am actively working on the volume on the Lower Carboniferous in Germany (with 30 co-authors). I will continue to prepare a publication on the stratigraphy (based on conodonts) of the Brilon reef region (northeastern part of the Rhenisches Schiefergebirge).

**Milan N. Sudar.** I still actively work on Carboniferous-Permian conodonts and foraminifers from NW Serbia, on the taxonomy and biostratigraphy of Triassic conodonts, as well as on Triassic conodont metamorphism.

**Walter C. Sweet.** In early November Anita Harris, Ray Ethington and I completed a manuscript establishing a conodont-based reference standard for the North

American Whiterockian Series (lower Middle Ordovician). We have no idea, as yet, when the rather long report will be published, but a summary was given at the Geological Society of America meeting in Reno. The abstract of that report is listed later in this newsletter. At present, I am working with Phil Donoghue on a summary of progress in conodont systematics, invited by editors of the *Journal of Paleontology* and scheduled for publication some time late in 2001. I hope eventually to complete my long-term project involving the graphic assembly of a high-resolution biostratigraphic network for the North American Ordovician, and, late in December 2000 there should appear a report on latest Ordovician/earliest Silurian conodont and graptolite stratigraphy in central Nevada.

**Andrew Swift.** Interest is being maintained in Late Triassic (and to a lesser extent Late Permian and Carboniferous) conodonts, but there is nothing new to report from the last year.

**Hubert Szaniawski.** I am still working on middle Cambrian protoconodonts from Georgina Basin, Australia, and on the protoconodont-chaetognath relationship.

**John Talent.** My work with Ruth Mawson (see above) and other Macquarie University colleagues on various Late Ordovician-Early Carboniferous faunas from eastern Australia continues, interleaved with organizational work on IGCP 421.

**Vladimir P. Tarabukin.** I am working on Ordovician, Devonian and Lower Carboniferous conodonts and investigate the biostratigraphy and biofacies of the Ordovician of Yakutia (N-E Asia). I am also busy with conodonts in xenoliths from kimberlite pipes on the Siberian Platform. CAI have begun on Ordovician-Carboniferous rocks in some areas of N-E Asia.

**Tom Uyeno.** In collaboration with Fred Rogers and Jack Wendte, I am still working on Middle Devonian conodonts from a large-diameter shaft in southwestern Ontario. In this regard, Fred and I resampled critical intervals of the Hungry Hollow Formation of the Hamilton Group in its type section. Its age has recently been in question. Other studies include Middle and Late Devonian conodonts from the subsurface of Alberta (with Jack Wendte), and of the Moose River Basin (with Gil Klapper).

**Viira Viive.** I continue to work on Lower Ordovician and Upper Silurian conodonts from Estonia. In cooperation with Anita Löfgren, a manuscript on Maekalda section conodonts has been completed and a study of the Pakri Cape (Hunneberg Stage) section has been started. Upper Silurian studies are concentrated on Ludlow Paadla Stage of Saaremaa.

**Wang Cheng-yuan.** I am working on Silurian to Triassic conodonts from China, especially on Permian conodonts from South China and Inner Mongolia, and on Silurian and Devonian conodonts from the west Qinling Mountain in Shanxi and Guangsu Provinces. I also have middle Triassic conodonts from E. Yunnan that I have not yet studied.

**Wang Zhi-hao.** I am working on the Ordovician, Carboniferous, Permian and Triassic conodonts of China.

**Karsten Weddige.** I am studying conodonts from the Lower and Middle Devonian of Morocco, Barrandian, Urals and Central Asia (Uzbekistan-Tadjikistan).

**Linda Wickström.** I have recently started my Ph.D at the University of Birmingham, UK. My project will focus on conodont evolution, mass extinction and ocean cyclicity and to start with I will use cladistic analysis to reconstruct the phylogenetic relationship of the genus *Kockelella*.

**Yao Jianxin.** I am actively working on Permian and Triassic conodonts from China and Japan.

**Evgeny A. Yolkin.** I am now working on Emsian conodonts. Some sections from the Altai were sampled this year.

**Shunxin Zhang.** I am actively working on Lower Silurian conodonts from Anticosti Island, Quebec, and Upper Ordovician conodonts from western Newfoundland, Canada. I mainly focus my interest on conodont paleoecology using statistic methods.

**Yongyi Zhen.** I am continuously working on Ordovician conodonts from New South Wales. A field trip was conducted in South China in September-October 2000, supported by the Australian Academy of Sciences and the Academia Sinica. A large number of conodont samples collected during the trip are now ready for processing at the lab of the Geological Survey of New South Wales. This material will be the focus of work in the coming years.

**Andrey V. Zhuravlev.** I am working on Upper Devonian and Lower Carboniferous conodonts from the

north of the Russian Platform and Urals, and on Permian conodonts from the Trans-Caucasus and Urals. The main fields of interest are histology (including micro-reticulation and 3D histological models), palaeoecology, functional morphology, biostratigraphy and CAI.

**Willi Ziegler.** I have continued studies on Devonian and Lower Carboniferous conodonts mainly the way I did it in the past years. Major subjects are conodont taxonomy, biostratigraphy and paleobiofacies. Cooperation was carried out with C.A. Sandberg, Denver, on general problems of Devonian-Carboniferous conodonts, event stratigraphy, sea level changes, and stratigraphical charts. The Urals cooperation on Frasnian/Famennian event stratigraphy and sedimentology with Senckenberg colleagues and Maria Snigireva, Ekaterinburg, and coworkers resulted in a report that is almost ready to go to press. One outstanding Frasnian section of the westslope of the Middle Urals yielded more than 30 vertical samples with excellent huge faunas (CAI 1.5) for a study of taxonomy and faunal development in the Frasnian, which is underway with Maria and her husband A. Bikbaev. Further cooperation with I. Bardashev and K. Weddige brought forth a voluminous manuscript on "Phylomorphogenesis of some Lower Devonian Platform Conodonts". The partnership with Middle Asian colleagues was continued through joint field work on Devonian and Carboniferous sections in Uzbekistan. South Chinese Frasnian/Famennian sections and faunas were discussed at some length during Wang Chengyuan's visit with me in the final quarter of 2000. The Late Devonian project of the German Subcommittee on Devonian Stratigraphy was supported by identifying many conodont faunas from sections in the Rhenish Mountains and Thuringia. A paper with Ovnatanova and Kononova on polygnathids from the Rhenish Mountains and the Russian Platform is in press.



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