Ordovician NEWS

IUGS COMMISSION ON STRATIGRAPHY
SUBCOMMISSION ON ORDOVICIAN STRATIGRAPHY

No. 2 1984
INTERNATIONAL UNION OF GEOLOGICAL SCIENCES

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NOTES FOR CONTRIBUTORS

Correspondence, reviews (and lists) of recent publications, brief summaries of current research, notices of relevant local, national and international meetings, and additions, deletions or changes to list of Ordovician workers will be welcomed.

Contributions should be in English, typed single spaced (double space between paragraphs) on white paper - print area should not exceed 18.5 x 26 cm. Copy should be mailed flat (with cardboard protectors) to Barry Webb, Department of Geology & Geophysics, University of Sydney, N.S.W. 2006, Australia.

Unless otherwise stated, Chris Barnes and Barry Webb are responsible for statements made in this issue of ORDOVICIAN NEWS.

ANNUAL REPORT OF THE SUBCOMMISSION ON ORDOVICIAN STRATIGRAPHY FOR 1983

The Subcommission on Ordovician Stratigraphy is pleased to report the following developments and activities during 1983:

1. Ordovician Correlation Chart Series

The Subcommission has been producing a series of correlation charts for Ordovician strata in major regions of the world in order to establish a data base for later global analysis of Ordovician correlations, chronostratigraphy and events.

One new chart was published, late in 1982 after submission of the 1982 Annual Report:


Other charts nearing completion and expected for publication in 1984 are:

Norway and Sweden (B. L. Bruton and V. Jaanusson)
North Africa (P. Legrand and M. J. Descombret)
South America (B. A. J. Baldis, F. G. Acenolaza, C. P. Hughes, et al.)
Central Europe (B. D. Erdtmann, et al.)

Charts for Greenland and the USSR may be available after next year. The charts are sold through IUGS offices in Paris and Ottawa. The Subcommission Chairman and Secretary are working with Dr. A. R. Berger to improve advertising and sales of the charts. An order form, for example, will be included with the forthcoming Newsletter.

2. Fourth International Ordovician System Symposium

This meeting was held in Norway in August, 1982, and the details reported last year. The proceedings have now been edited and publication will be available in December 1983: D. L. Bruton (Editor), Aspects of the Ordovician System. Palaeontological Contributions from the University of Oslo, No. 295, Universitetsforlaget.

3. New Ordovician Chronostratigraphy Working Groups Established

As noted last year, and approved in principle at the last S.O.S. meeting in Norway, August 1982, a series of Ordovician Chronostratigraphy Working Groups is being established. The Ordovician System is one of the most complex and many regional chronostratigraphic schemes are in use. Regional working groups will therefore appraise the existing scheme, review alternatives, examine modern data (e.g. some included in the charts) and alternative schemes, and determine key stratigraphic datums and events that may have international significance.
The following Ordovician Chronostratigraphy Working Groups have been established to date with the chairman or co-chairman noted in parentheses:

- Britain (W. T. Dean)
- North America (A. G. Harris and J. Repetski)
- Balto-Scandia (D. L. Bruton)
- Australasia (R. A. Cooper and F. VandenBerg)

A working group for China should be in place within a few months and one for USSR hopefully will be established at, or immediately following, the International Geological Congress, Moscow, August 1984. It is expected that the work of these individual groups can be accomplished within four years. The results would be debated at, and recommendations advanced from, the next International Ordovician System Symposium. The exact date and location will not be decided until late 1984. The aim will be to arrive at a precisely defined Ordovician chronostratigraphic subdivision and if alternative schemes are deemed required for certain areas that these be also precisely defined and correlated with the principal scheme. As each group reaches decisions for its area it is likely that the Subcommission will arrange field trips to some areas, especially Britain, to review the Working Group's recommendations.

4. Subcommission Newsletter

A new Newsletter has been prepared and will be distributed in November 1983. The first issue will be 30 pages in length, distributed to 300 specialists, with an additional 200 copies printed for later distribution on request. The Newsletter will be prepared biannually from 1984 onwards. Dr. B. D. Nobby will act as Newsletter Editor.

5. Subcommission Membership

There has been no change in the titular membership and the names and addresses are appended as a separate list.

No new corresponding members have been added, but several will be put forward for approval at the next Subcommission meeting in Moscow, 1984.

In summary, the Subcommission continues to have an active program of chart preparation and publication. Dr. R. J. Ross, Jr. continues to act as chart editor. A new phase of Chronostratigraphy Working Groups is now beginning and will take the Subcommission towards resolving central issues for the Ordovician System. New working groups in other areas (e.g. geochronology) will be established in 1984. The increased activities of the Subcommission will require additional financial support from the IUGS and Commission on Stratigraphy.

November 20, 1983.

SUMMARY OF WORK AND ACHIEVEMENTS OF THE SUBCOMMISSION ON ORDOVICIAN STRATIGRAPHY 1980-84

Major business meetings of the Subcommission on Ordovician Stratigraphy have been held in Paris (1980), Oslo (1982) and Moscow (1984). An important scientific meeting was held in Sundvoll, Norway in 1982 as the IV International Symposium on the Ordovician System together with field trips throughout Scandinavia. The major publication from this conference was by Bruton D. L. (ed.) 1984, Aspects of the Ordovician System. Palaeontological Contributions from the University of Oslo, no. 295, Universitetsforlaget, 224 p.

The Subcommission established a program of Ordovician Correlation Charts for key regions in order to develop a data base for later global interpretations and chronostratigraphic decisions. Those for China, the near and Middle East, Australia, New Zealand and Antarctica, Canada, Southwestern Europe, and the United States were published during this period as IUGS Publication Nos. 1, 2, 6, 8, 11 and 12 respectively. Remaining charts currently in preparation are for South America, North Africa, Norway, Sweden, Greenland, Central Europe and Southeast Asia.

Anticipating the completion of the Correlation Chart series over the next two or three years, a set of Ordovician Chronostratigraphy Working Groups has recently been established for North America, China, Balto-Scandia, United Kingdom, South America and Australia. These groups will work regionally to review current chronostratigraphic subdivisions of the Ordovician System. Their work will finally lead to a full global review of the System over the next four year period. Work in geochronology and magnetostratigraphy will be integrated with the chronostratigraphic studies.

Work is at an advanced stage to define the boundaries of the Ordovician System as reported separately by the Boundary Working Groups.

IUGS ORDOVICIAN CORRELATION CHARTS - PROGRESS REPORTS

1. Central Europe. Excellent progress is being maintained in the preparation of the IUGS Correlation Chart for the Ordovician of Central Europe, under the guidance of Dr Bernd D. Erdmann. Plans are well in hand to have all contributions to Dr Erdmann by 31 October 1984, with a publication date sometime in 1985. Currently the colleagues invited to participate in the project include the following: W. Franke (Göttingen), F. Geckens (Leuven, Belgium), E. Hammann (Wiirzburg), V. Havlick (Praha), V. Jaanasson (Stockholm), M. Lindstr6n (Msk), J. Marek (Praha), K. Schalzlreuter (Hamburg), H. P. Sch6nlaub (Wien), A. Struve (Frankfurt), E. Tomczykowa (Warsawa), A. Urbanek (Warszawa), L. Vanguestaine (Liege, Belgium), and R. Walter (Aachen, W. Germany).

2. North Africa (Algeria and Tunisia). This chart is being prepared by L. Legrand and M. J. Dehommes. It is hoped to complete preparation in 1984.
3. Norway and Sweden. D. L. Bruton and V. Jaanunsson are coordinating work on correlation charts of Norway and Sweden. Other participants are A. W. Owen and S. M. Bergström. Work on the charts is nearing completion.

4. South America. The chart being prepared by B. A. J. Baldis, F. G. Acenolaza and C. F. Hughes is also nearing completion.

5. Greenland. J. Peel is currently assembling a chart, with plans for completion in 1985.

ODOVICIAN CHRONOSTRATIGRAPHY WORKING GROUPS

In addition to the British working group whose recent work was reported in the last issue of ODOVICIAN NEWS (No. 1, 1983), there has been the establishment of four additional working groups to review the 'regional' series (and stages) of their regions. These are as follows:

1. China

The Chinese Ordovician Chronostratigraphy Working Group (CCOCWG) was set up under the guidance of Professors Lu Yinhao and Hu Enzhi, who will act as advisers. The group includes ten members - An Taixing (Beijing, conodonts), Chen Junyuan (Nanjing, cephalopods), Chen Xu (Nanjing, graptolites), Lai Caigen (Beijing, cephalopods), Rong Jinjun (Nanjing, brachiopods), Wang Xiaofang (Yichang, graptolites), Wang Zihao (Nanjing, conodonts), Xu Hankui (Nanjing, brachiopods), Yang Shengwu (Guizhou, corals) and Zhou Zhiyi (Nanjing, trilobites). Chen Xu and Zhou Zhiyi are the group loaders.

2. Baltoscandia


3. North America


4. Australia and New Zealand


Hopefully an additional working group can be established for the Soviet Union during the 27th International Geological Congress in Moscow in August 1984. It is also understood that B. A. J. Baldis and F. G. Acenolaza are prepared to organize a working group for Latin America.

These Ordovician Chronostratigraphy Working Groups have been, or are being, set up in order to work towards an internationally accepted chronostratigraphy for the Ordovician System. As noted in the first issue of ODOVICIAN NEWS, the objects will be (i) to define the regional series (and stages) so as to include details of stratotype lithostratigraphy, thickness, facies variation away from stratotype sections and ranges of diagnostic fauna and flora; (ii) to recognize levels at which major faunal breaks/events occur and, where possible, tie points between the various zonal schemes (graptolites, conodonts and other groups); and (iii) to record just how applicable the redefined series/stages (and their lower boundaries) are for international correlation purposes, and for possible use in one or more series (or stage) classifications of the Ordovician System.

It is anticipated that answers to the issues noted above will be forthcoming within the next four years. At the next International Ordovician System Symposium, a main theme will be Ordovician chronostratigraphy. The recommendations from the various regional groups can be presented and debated, hopefully resulting in a consensus on the global chronostratigraphic terminology to be adopted for the System.


Ordovician Geochronology and Geomagnetism Working Groups

As noted in the last issue, we are considering establishing working groups dealing with Ordovician geochronology and Ordovician geomagnetism. Contacts have been made with specialists in these fields who are presently serving on related IUGS Subcommittees. If you would like to assist in this work or can offer suggestions of specialists in these areas, please contact Chris Barnes or Barry Webby.

BUSINESS AND SCIENTIFIC MEETINGS OF SUBCOMMISSION AND RELATED BODIES TO BE HELD AT 27TH IGC IN MOSCOW, AUGUST 1984

A number of meetings of interest to Ordovician specialists, including the next formal business meeting of the Subcommission on Ordovician Stratigraphy, will be held at the 27th International Geological Congress in Moscow, in August 1984.
The Third Circular lists (p. 9-10) the following meetings, dates and times (final details may of course change by the time of the IGC).

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<th>Meeting</th>
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<tr>
<td>Commission on Stratigraphy</td>
<td>Aug. 5, 13</td>
<td>18.30 - 21.00</td>
<td>Univ. Bldg 2, Rm 13</td>
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<td>Working Gp. Cambrian/Ordovician</td>
<td>Aug. 9</td>
<td>13.00 - 15.00</td>
<td>Univ. Bldg 2, Rm 13</td>
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<td>Ordovician Boundary</td>
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<td>18.30 - 21.00</td>
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<tr>
<td>Subcommission on Ord. Strat.</td>
<td>Aug. 9, 13</td>
<td>18.30; 8.30 - 13.00</td>
<td>Univ. Bldg 2, Rm 12</td>
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<td>Subcommission on Camb. Strat.</td>
<td>Aug. 8</td>
<td>18.30 - 21.00</td>
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<tr>
<td>Subcommission on Sil. Strat.</td>
<td>Aug. 10</td>
<td>18.30 - 21.00</td>
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<tr>
<td>Working Group on Cambrian</td>
<td>Aug. 6, 7</td>
<td>13.00 - 15.00</td>
<td>Univ. Bldg 2, Rm 13</td>
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<tr>
<td>Correlation</td>
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<tr>
<td>Subcommission on Stratigraphic</td>
<td>Aug. 8, 9</td>
<td>18.30 - 21.00</td>
<td>Univ. Bldg 2, Rm 510</td>
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<td>Int. Paleontological Assoc.</td>
<td>Aug. 8, 9</td>
<td>18.30</td>
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<tr>
<td>IGCP 192. Camb.-Ord. development in South America</td>
<td>Aug. 5, 6</td>
<td>18.30</td>
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Because of the obvious conflicts of meetings of similar interest, some attempt is being made to rearrange the above schedule.

The preliminary agenda for the meetings of the Subcommission on Ordovician Stratigraphy is as follows:

1. Introductory comments.
2. Approval of Agenda.
3. Approval of Minutes of last Subcommission meeting, Sundvollen, Norway. 22 August 1982.
4. IV International Symposium on the Ordovician System, Oslo and publication.
5. Ordovician Correlation Charts: status reports on those in preparation.
6. Ordovician Chronostratigraphy Working Groups
   a. Progress reports from Working Groups for Britain, Balto-Scandia, North America, China, Australia, South America.
   b. Establishment of Working Groups for other areas (e.g. U.S.S.R.).
   c. Integration of zonal schemes.
7. Ordovician Geochronology and Geomagnetism - establishment of possible working groups.
8. Ordovician palaeo-oceanography, palaeogeography, and palaeoclimatology.
9. Ordovician boundaries
   Decision on base of Silurian System (O-S Bdry Whg Gp).
   Status of base of Ordovician System (C-O Bdry Whg Gp).
10. Possible location and date for (next) V International Symposium on the Ordovician System.
11. Election of Officers and Titular Members of Subcommission.
13. Approval of the New Corresponding Members of Subcommission.
14. Future activities.
15. Other business.

GRAPTOLITE CONFERENCE

3. INTERNATIONAL CONFERENCE OF THE GRAPTOLITE WORKING GROUP OF THE INTERNATIONAL PALEONTOLOGICAL ASSOCIATION
COPENHAGEN, August 24 - September 2, 1985

Besides the meeting itself (August 26-30) in Copenhagen, there will be field meetings in Oslo, Norway (August 25), Scania, Sweden (August 21-September 1) and Bornholm, Denmark (September 2). The theme of the conference is: "Palaeobiological aspects and geological use of graptolites", and there will be sessions on: 1) biostratigraphy, 2) taxonomy and classification, 3) evolution, relation to geologic events, 4) palaeobiological and ecological aspects. 5) a diverse group including investigation methods. A number of workshops are also planned.

Circular 3 and registration forms can be obtained from:
Dr. Merete Bjerreskov, Inst. of Historical Geology & Palaeontology, Øster Voldgade 10, DK-1350, Copenhagen K, Denmark.
Deadline for abstracts is December 1, 1984.
### SUPPLEMENT TO DIRECTORY OF OROVICIN WORKERS
(containing additions and corrections to list of Orovin workers published in OROVIN News No 1)

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<th>Name</th>
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A. Publications of Ordovician Symposium and related ICGP working groups


Order from: Universitetsforlaget, P.O. Box 2599 Postboks, N-0036 Oslo 6, Norway.


Three excursion guides, as follows:


This report of activities of ICGP No. 192 includes a 15 page general introduction, full accounts of work in Argentina, Brazil, Bolivia, Chile, Colombia, Mexico and Venezuela (109 pages) and concludes with a series of extended abstracts (22 pages).

This is an important review of recent progress in work on the Ordovician System by the immediate past Chairman of the Ordovician Subcommission.

B. Other recent publications


See also article on Cambrian-Ordovician trilobites in same work (pp. 65-90).


Other important papers by Diet and Moskalenko on Ordovician conodonts in this same issue of Fossils and Strata.


Mutveli, H., Flexible nacre in the nautiloid Isorhacocras, with remarks on the evolution of cephalopod nacre. Lethaia 10, 233-240.


CURRENT RESEARCH

BRITISH ISLES

R.D. Aldridge, Nottingham: Current dealings in the Ordovician include a study, with Richard Portey and Paul Smith, of conodonts from the early Ordovician Manadur Shale of Saudi Arabia. The Fourth International Conodont Symposium held in Europe (ECOS IV) will be in England from 20 July to 2 August 1985. The programme includes a field excursion to examine lower Paleozoic sections in the Welsh Borderland. Anyone requiring details should write to me.


P.J. Brenchley, Liverpool: Sedimentology of clastic sequences in Ordovician of Portugal and Spain. Sedimentology and geochemistry of sequences across the Ordovician/Silurian boundary.


S. Conway Morris, Cambridge: Would be interested to learn of any soft-bodied material from the Ordovician.

J.C.M. Cope, Swansea: Tremadoc and Arenig of South Wales: Ordovician bivalves, monoplacophorans, sponges and problematica.

P.R. Crowther, Leicester: Ultrastructure of graptolites.

G.B. Curry, Glasgow: Ordovician faunas of western Ireland, Scotland and Spitzbergen. [Also see this issue, p.31]

W.T. Dean, Cardiff: Cambrian and Ordovician stratigraphy, and trilobites, in Turkey, Wales, Belgium and Canada.


T.L. Harland, Chester: Ordovician algae from Norway, and Trenton limestones of Quebec.


J. Mortin, Swansea: Investigations into systematics, mode of life, zoological affinities etc., of conulariids worldwide (but concentrating on British material) - Ordovician to Triassic.

A.W. Owen, Dundee: Ordovician stratigraphy of the Oslo Region, Norway. Ordovician trilobites of Scandinavia and the British Isles. Trilobite abnormalities (injuries, teratology etc.).


A.D. Wright, Belfast: Shelly faunas and sedimentation about the lower and upper boundaries of the Ashgill Series in the Cross Fell and Cauld-Ent inliers of northern England.

SCANDINAVIA

P. Ahlberg, Lund: Ordovician agnostid trilobites.

Y. Gram, Uppsala: Ordovician and Lower Silurian Chitonoida from midcontinental U.S.A.


L. Holmer, Uppsala: Biostratigraphy, taxonomy and palaeobiology of Ordovician inarticulate brachiopods. Carbonate sedimentology and hardground formation in the Ordovician of Saltosandia.


S. Löffeld, Uppsala: Work on Silurian Chitonoida and (together with L. Jeggern) the stratigraphy of the late Silurian Öved-Ramsjö Group in Scania, southern Sweden.
H. Lindholm, Lund: Gaptolith stratigraphy and taxonomy of the Tremadoc-Arenig transition beds and the lower Tidyr (graptolite) Shale in southern Scandinavia, including study of the dendroid/gaptolith transition (in particular the occurrence of Didymograptus s.l.) and a revision of Monen 1937. A joint project with A. Liögren aims at correlating Scandinavian graptolite zones with econdont zones of the above time interval.

A. Liögren, Lund: Early Ordovician conodont taxonomy and biostatigraphy.


B. Neuman, Bergen: Taxonomy, ontogeny and palaeoecology of Ordovician and Silurian rugose corals, and Ordovician and Silurian biostatigraphy.


J. E. Eli, Copenhagen: Cambrian-Ordovician stratigraphy and palaeontogy in Greenland. Lower Palaeozoic mollusca, especially gastropods and monoplacophorans.

N. Stipicic, Oslo: Ordovician palaeoclimates, stratigraphy, bryozoans, brachiopods, calcareous algae and vertebrates: aspects of taxonomy, functional anatomy and palaeoecology.

B. Sturt, Bergen: Regional geological relationships of ophiolites and island arc complexes in the Scandinavian Caledonides. The sequential development of the Caledonide Orogen with particular reference to N.W. Europe.

B. Hahne, Slussen: Ordovician sedimentology and stratigraphy of the Hjølond area, Norway. Also part of an ICPG project on the Caledonian Orogeny (together with D.L. Bruton and J.F. Bockleie). Mapping on the continental shelf off the north coast of Norway.

C. Babin, Brest: Bivalvia from the Spanish Ordovician.

A. Brouwer, Leiden: Ordovician succession on the Continent (Netherlands, Belgium, France) and comparison with adjoining areas (Pyrenees, Celtiberian chain, British Bight etc.).


P. Legrand, Tessa: Graptolites of Lower Tremadoc and Ordovician/Silurian boundary.

F. Martin, Brussels: Acritarchs and chitinozoans, in particular Cambro-Ordovician acritarchs from eastern Newfoundland, Ordovician acritarchs from Wilcox Pass, southern Canadian Rockies, and Ordovician acritarchs from the Canning Basin, western Australia (with G. Playford).

M. Prieto Rogeira, Madrid: Ordovician brachiopods of central Spain.

I. Rubano, Madrid: Ordovician trilobite faunas of Spain.


G. Bierne, Warszawa: Morphology, shell structure and evolutionary trends in inarticulate brachiopods, especially acrotretids. Would like to receive any acrotretid specimens from Cambro-Ordovician and Silurian strata.

B. D. Oleden, Gottingen: Graptolite taxonomy, ecology and stratigraphy, acritarch stratigraphy - depositional environments of Tremadoc and Arenig in Scandinavia, Central Europe, Sierra Morena (Spain) and western Newfoundland. Event stratigraphy and black shale depositional analysis of Early Ordovician worldwide. Ordovician correlation chart of Central Europe.

H. Jaeger, Berlin: Silurian and Devonian graptolites.


R. Schallreuter, Hamburg: Ordovician ostracodes of Europe and South America.


H.P. Schindel, Vienna: Mapping and biostatigraphy of Lower Palaeozoic sequences in the Carnic Alps. Conodont biostatigraphy in the Karstian and southern France.


J. Vanek, Praha: Studies of morphology and phylogeny of the Haploporidae, Cheiruridae and Proetida (Teilokta).

R. Wulfart, Hanover: Ordovician ostracodes, conodonts and other faunas of Burma and Thailand. Cambrian of the world.

C. Babiu, Breșt: Bivalvia from the Spanish Ordovician.

A. Brünew, Leiden: Ordovician succession on the Continent (Netherlands, Belgium, France) and comparison with adjoining areas (Pyrenees, Celtiberian chain, British Bight etc.).


P. Legrand, Tessa: Graptolites of Lower Tremadoc and Ordovician/Silurian boundary.

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M. Prieto Rogeira, Madrid: Ordovician brachiopods of central Spain.

I. Rubano, Madrid: Ordovician trilobite faunas of Spain.


A. Byowmsuk, Tartu: Strophomenida in the Ordovician of Estonia. Trilobite genus Toxochaenops in the Ordovician of Estonia.


INDIA AND THAILAND

V.D. Gupta, Chandigarh: Lower Palaeozoic palaeontology and biostatigraphy of Ladakh and Spiti Himalayas.

P. Vongvichit, Bangkok: Sedimentation and environment of deposition of Ordovician limestones in Thailand, also establish Cambrian/Ordovician boundary, study Ordovician geography and assess resource potential of succession.

PEOPLE'S REPUBLIC OF CHINA


Chen Xu, Nanjing: Ordovician/Silurian boundary and the graptolela fauna. Ordovician and Silurian environments, and Ordovician chronostatigraphy.


Hong Jiayi, Nanjing: Brachiopods of latest Ordovician in the Yichang district, W. Hubei, central China. Terminal Ordovician Hirnantia fauna in Xina, northern Xinjiang, N. Tibet (with Xu Hankui).

Yang Xiaofen: Yichang: In view of the need for global Ordovician classification and correlation, my colleagues and I have been working on the Ordovician strata of the eastern Yangtze Gorges, China, since 1978 with the Huanghuachang section as the stratotype. This is a quite complete Ordovician section with a great abundance of various fossils. A preliminary report of the achievement of this study, which includes definitions of stages and lower and upper boundaries, and the changes of corresponding major fauna and flora, as well as descriptions of lithostatigraphy, has been published in the Bull. Yichang Inst. Geol. Environ. Res., Chin. Acad. Sci. (1983). The full report is expected to be published in Geol. Bull. House in 1985.

CANADA

A. Achata, Einstein-St-Poy: Ordovician Chinitoncids from the province of Quebec.

T.E. Bolton, Ottawa: Late Ordovician-early Silurian corals, Anticosti Island and Gaspé Peninsula, Quebec. Ordovician-Silurian stratigraphy of eastern Canada. Lower-Middle Ordovician faunas of the Mingan Islands, Quebec.


K. Kennan, St. John's: Late Ordovician tabulate corals, especially heliolitids, from Tasmania.

A. Lenz, Londons: Ordovician/Silurian boundary strata of northern Canadian Cordillera and Arctic Islands.

P. Lesperance, Montreal: Upper Ordovician-Lower Devonian biostatigraphy.

A. D. McCreache, London: Middle Ordovician-Lower Silurian conodonts and graptoleids of the northern Yukon and Arctic Canada (with A. Lene), and Ordovician-Silurian conodonts of the Whittaker Formation of North-west Territories (with G.S. Howian).

U. Mayr, Calgary: Stratigraphy and structure of Lower Palaeozoic Platform of Canadian Arctic Islands.

R.S. Norford, Calgary: Ordovician stratigraphy and biostatigraphy of mainland western Canada.

G.S. Howian, Ottawa: Lower and Middle Ordovician conodonts from the Mingan Islands, Quebec. Late Precambrian phanerophytic microfossils, Wernecka Mountains, Yukon Territory. Late Ordovician conodonts from the Whittaker Formation, Atalvane Lake, Northwest Territories. Compilation of isograd maps based on conodont colour alteration for eastern Canada.


B. Stait, St. John's: Cambrian-Ordovician nautiloid taxonomy, biostatigraphy and biogeography, especially Australia, Southeast Asia and Newfoundland. Ordovician trilobite taxonomy, biostatigraphy and biogeography.

S.H. Williams, St. John's: Taxonomy and biostatigraphy of Lower Ordovician graiptolithes from the Cow Head Group, western Newfoundland.

UNITED STATES

T.W. Amnden, Norman, OK: Keei-Edgewood (Hirnantia) in midcontinental U.S.A. - paleo-environmental study. Late Ordovician, Silurian to Early Devonian correlation chart and brachiopod range chart of Oklahoma to Mississippi Valley, U.S.A.

B.L. Anstey, East Lansing, MI: Paleogeography of Late Ordovician bryozoans in North America. The Late Ordovician bryozoan extinction. Heterochrony in bryozoan evolution. Improved biometry for fossil bryozoans via quantitative stereology.

J.N. Burdon, Washington, DC: Study of ostracode ranges across the Middle-Upper Ordovician boundary at the stratotype section in Kentucky.

S.M. Bergström, Columbus, OH: Several projects in the Middle Ordovician of Great Britain. Comonot biostatigraphy and paleoecology in the Appalachians and Baltic region. Canadonlites biostatigraphy in central Norway. Middle Ordovicianentonites, Chinitoncids in the Middle Ordovician of southern Appalachians.

A.J. Boucot, Corvallis, OR: Mostly Silurian-Devonian brachiopods and gastropods. Also study of an Acheulian community with colleagues in Marjins (Hong Jiayu and Yang Xuechang).

R.R. Cuffey, University Park, PA: Ordovician bryozoan paleoecology (especially bioturbational and sedimentary contributions) and biostratigraphy; morphology, systematics and distributions of the earliest bryozoans.

R.L. Ethington, Columbia, MO: Conodonts in deep-water facies, Ouachita Mountains, Arkansas. Lower and lower Middle Ordovician conodonts of central and western U.S.

S.C. Finney, Stillwater, OK: Graptolite biostratigraphy and biogeography of Middle Ordovician of southern Appalachians. Graptolite biostratigraphy of Ordovician of Arkansas and Oklahoma. Upper Ordovician graptolites from Jarrand, Sweden. Description of isolated graptolites from many Ordovician localities, including new forms from Bolivia (paper with L. Bransis in press in Geol. Mag.).


T.J. Hutter, Houston, TX: Chitinozoan, acritarch and spore biostratigraphy of the Great Basin and other Paleozoic deposits and basins of the western U.S.

M. Kamendulis, State College, PA: Bryozoan research in Mayville, Kentucky area.


D.L. Meyer, Cincinnati, OH: Current research focused on biostratigraphy and paleoecology of edrioasteroid and crinoid assemblages in the Cincinnati Series.

D.G. Mikulic, Champaign, IL: Calcareaous and foraminiferal oolites at the Ordovician/Silurian boundary; editing volume on this topic (with J. Fluevog) to be published by Wisconsin Geol. and Nat. Hist. Survey in 1984 or 1985. Trilobite taxonomy, ecolgy and biogeography (especially in carbonate beds).

M.H. Mitsocki, Chicago, IL: Evolution, morphology and systematics of receptaculitids and other problematic Ordovician fossils.

A.R. Palmer, Boulder, CO: Review of bioregional boundaries to be published in J. Paleon., sometime in 1984, one of which is at or near the base of the Ordovician.

J. Pojeta Jr., Washington, DC: Cambrian and Ordovician molluscs especially discomed摸- their taxonomy and biostratigraphy. In addition I am editing a series of publications on the Middle-Upper Ordovician boundary reference section in Ohio, Indiana and Kentucky.

D.H. Rohr, Alpine, TX: Ordovician gastropods from the Seward Peninsula, Alaska (with A.W. Potts).

J.R.P. Ross, Bellingham, WA: Ordovician bryozoa from various parts of the world.

S.D. Rupple, Austin, TX: Conodont biostratigraphy and depositional system of Middle Ordovician of Quebec. Petrology, depositional systems and petroleum potential of Lower Ordovician of Texas.

A. Salvador, Austin, TX: As Chairman of the Int. Subcom. on Strat. Classif. (ISSC) of the Int. Comm. on Strat., I am involved in work on stratigraphic principles and procedures. At present, the main areas of interest are the stratigraphic classification of igneous and metamorphic rocks and unconformity-bounded units, as well as the preparation of a Glossary of Stratigraphic Terms. I have also been involved in the preparation of the standard global chronostratigraphic/chronostratigraphic scales for the new set of stratigraphic correlation charts for the U.S. (Project COSUNA). In relation to both activities I am most interested in the work of the Subcom. on Ordovician Stratigraphy.

J. Sprinkle, Austin, TX: New rhomboferian cystoid from the Early Ordovician of southern Idaho. Late Cambrian echinoderm faunas from SE Missouri with H.I. Stemple and NE Alabama (with G.L. Bell, Jr.). Middle Ordovician echinoderm faunas from Birmingham, Alabama (with G.L. Bell, Jr.).

J.H. Stitt, Columbia, MO: Taxonomic work on trilobites and brachiopods across the Cambrian/Ordovician boundary interval at Mt. Wilson, Canada (with J.R. Derby).

C.W. Stock, University, AL: Middle Ordovician stromatoporoids in the Chickamagua Limestone of Alabama and Georgia. Other projects on the Chickamauga Limestone include student studies of the brachiopod biostratigraphy and the paleoecology and sedimentary petrology of the bioherms.

W.C. Sweet, Columbus, OH: Assembly of sections of upper Middle and Upper Ordovician rocks in North America and in detailed chronostratigraphic network by graphic correlation techniques largely based on conodonts. Also on lower Middle and lower Ordovician conodont faunas of Oklahoma and the Kansas subsurface.

J.P. Taylor, Indiana, PA: Distribution of fauna, especially trilobites, and lithologies across the Cambrian/Ordovician boundary in Oklahoma and Texas. Also study of trilobite faunas of Upper Cambrian and Lower Ordovician rocks of the Appalachians.

ORDOVICIAN REVIVAL ALONG THE HIGHLAND BOUNDARY FAULT IN SCOTLAND

For many readers, news of Ordovician fossils in the Highland Border Complex (HBC) may conjure up feelings of déjà vu. Certainly sparse Ordovician faunas have been reported sporadically from a variety of Highland border rocks ever since the earliest discoveries during the first decade of this century. On the basis of this palaeontological evidence, a loosely-defined Ordovician age was, until recently, widely accepted. An (?) Arenig age was attributed to the HBC in many papers, colouring much geological thought for several decades. But confusion is it worth pointing out that the term 'complex' has been adopted in place of the widely-used but inappropriate 'Series', and that the rocks of the Highland Border Complex crop out along the line of the Highland Boundary Fault.

Many readers not closely involved with Scottish geology may, however, be unaware of recent interpretative upheaval, in particular dealing with the age, provenance, and tectonic history of the HBC. The basis for this upheaval lay in a mid 1960's reappraisal of the admittedly scraggly fossils which had up to then been cited as evidence of an Ordovician age. The consensus was that these fossils were not diagnostic of the Ordovician, but indicative only of a Early Paleozoic age. As a result the well-established Early Cambrian age for the Lemy Limestone became the only reliable age datum then available for the entire Complex. A recent reinterpretation of Highland Border history, based primarily on structural criteria, went on to suggest that these rocks were in fact part of the Pre-Cambrian Dalradian Supergroup to the north, and represented a late stage basin development within the main Dalradian Basin (Henderson & Robertson 1982). Their present position, along the line of the Highland Boundary Fault bounding the southern margin of the Scottish Dalradian, was explained by southward thrusting associated with early deformation phases of the Grampian Orogeny. Such a suggestion had certainly attracted, not the least being to tidy up a problematical group of rocks not previously incorporated meaningfully into a regional tectonic synthesis. By this interpretation, however, the Highland Border rocks had to have been deposited by Middle Cambrian at the latest because of radiometric age constraints on the timing of Grampian structural events including the thrusting thought to have transported them southwards.

However this theory was subsequently proved untenable for at least one Highland Border unit when a diverse silicified fauna (zizalites, brachiopoda, ostracods, etc.) of undoubted Arenig age was recovered from a constituent lithology, the Doumans Limestone (Curry et al. 1982). Rocks of this age could not have been moving as a tectonic package in the manner suggested by Henderson & Robertson (i.e. in the Cambrian). The Doumans Limestone fauna is extremely sparsely distributed, and was only discovered by etching bulk samples in dilute acid. Currently over 5,000 kg of Doumans Limestone have been digested, and so sparse is the fauna that the original material is currently being processed.

The Doumans Limestone is, however, only one of the many small disjointed, lithologically-variable, and predominantly fault-bounded units which collectively make up the HBC. In such terrain datable fossils constitute the only viable hope of establishing a reliable lateral correlation across the Complexes, which is essential for tectonic interpretations. As such the success of the Doumans investigations prompted a greatly expanded programme of palaeontological prospecting, especially as bulk sampling and acid etching techniques have never previously been applied in Highland Border studies. This work repaid its investment with a cooperative research programme based in Glasgow (with HBC funding) investigating many aspects of Highland Border stratigraphy, sedimentology and geological history (participants: B.J. Blackwood, C.D. Burton, B.G. Curry, J.K. Forrest, J. Graham, R.A. Houghton, D.M. Williams). A series of progress reports are due to be published in the Transactions of the Royal Society of Edinburgh during 1984 (the proceedings of the Bicentenary Symposium of...
on the "Deep Geology of the Midland Valley of Scotland and Adjacent Regions", Edinburgh, Oct. 1963). However it would seem appropriate to briefly summarise herein the current status of this research, especially as the results are of direct interest to readers, and may not otherwise become widely disseminated for some time yet.

The most significant result has been the recovery of a range of macro- and microfossils from a wide variety of Highland Border carbonates and clastics previously considered unfossiliferous. All of these fossils are of Ordovician age, and the HBC is now known to range in age from Arenig up to Caradoc/Ashgill. On the basis of this data we interpret the HBC as the tectonically dismembered remnants of a substantial Ordovician marine basin which developed discrete from the Dalradian basin. The regional setting of this Highland Border basin is not as yet fully resolved and it may indeed be equivalent to the South Mayo Trough in western Ireland. While such a suggestion is speculative we do believe that the present juxtaposition of Dalradian, HBC, and Midland Valley in Scotland was not achieved until Upper Palaeozoic times. Consequently the possibility of considerable lateral movements along the Highland Boundary Fault zone must be considered. There does seem to be some evidence for early transcurrent movements in this zone, but their nature and extent has yet to be determined. The relationship of the Cambrian Lony Limestone also requires clarification; it crops out adjacent to undoubted Dalradian lithologies and may well be an isolated sliver from that Supergroup, but the contact is problematical.

Gordon B. Curry, Dept of Geology, University of Glasgow, GLASGOW G12 8QQ, Scotland.


NEW JOURNAL

"Palaeontologia Cathayana" is a new English journal of palaeontology and stratigraphy to be published irregularly by Nanjing Institute of Geology & Palaeontology, Academia Sinica. Editor-in-Chief is Lu Yanhao.

First issue was planned to appear in latter part of 1983, and to contain articles on Cambro-Ordovician trilobites by Lu Yanhao and Qian Yiyuan; on Ordovician to Silurian graptolites from Tibet by Mu Enshi and Ni Yunan and on the Ordovician-Silurian boundary in China by Mu Enshi. The 430 page issue is available for US$120, from the International Distributing Section, Science Press, 137 Chapuyangmennei Street, Beijing, P.R. China.