

Aymon Baud and co-authors report on the first IGCP 630 field workshop, held on November 17-22, 2014, in Kashmir, India. This program is aimed to investigate the recovery of ecosystems following the end-Permian mass extinction. The authors analyze all the Permian succession of Kashmir, from the Lower Permian Panjal Trap to the Upper Permian Zewan Formation and the overlying Khunamuh Formation, with the Permian-Triassic transition recorded in its Member E1.

Joerg Schneider and co-authors describe the activities of the Nonmarine-Marine Correlation Working Group for 2014, which resulted in the organization of a Field Meeting on Carboniferous and Permian Nonmarine-Marine Correlation, held at the Technical University Bergakademie Freiberg in Germany from July 21 to July 27, 2014. The participants benefitted two days of scientific presentations, followed by visit to the most important Carboniferous and Permian outcrops in eastern Germany and the Czech Republic. The report of Joerg Schneider and co-authors include a correlation chart which should stimulate the Permian community to provide data to improve the suggested correlation.

The abstract of Stephen Kershaw presents a model – derived from the modern Black Sea - which supposes that upwelling and advective circulation could draw suspended pyrite framboids onto the shelf to be deposited in oxygenated sediments. This has very important implication for potentially misleading interpretations of low oxygen conditions at the Permian–Triassic transition.

Finally, two obituaries, respectively by I.A. Ignatiev and Yu.V. Mosseichik and by Alfredo Arche, remember the two Permian women scientists Marina Durante and Carmina Virgili, who sadly passed away in the autumn of 2014.

Future issues of Permophiles

The next issue of Permophiles will be the 61th issue.

Contributions from Permian workers are very important to move Permian studies forward and to improve correlation and the resolution of the Permian Timescale, so I kindly invite our colleagues in the Permian community to contribute papers, reports, comments and communications.

The deadline for submission to Issue 61 is a 15th April, 2015. Manuscripts and figures can be submitted via email address (lucia.angiolini@unimi.it) as attachments.

To format the manuscripts, please follow the TEMPLATE that you can find on the new SPS webpage at <http://permian.stratigraphy.org/> under Publications.

We welcome your contributions and advices to improve the webpage as we move forward.

Notes from the SPS Chair

Shuzhong Shen

I would thank Lucia Angiolini and her family for their hospitality when I was in Milano. We discussed how to edit this issue of Permophiles in Milano and Lucia did most of the work in editing this issue.

First of all, I would call all SPS voting members to participate in a field excursion to investigate the three Cisuralian GSSP

candidates in southern Urals, which will be held between August 6 and 9, 2015. This field excursion will be held just before the 18th ICCP meeting, so all participants can continue to attend the ICCP meeting after the excursion. SPS will apply for some financial support from ICS to cover at least a part of the field excursion for all voting members. To establish the remaining three GSSPs in the Permian is the priority for SPS's recent future work. After this field excursion - which will be very helpful to make a decision on the GSSPs (see detail in this issue for the itinerary of the field excursion) - and some updates of the proposals, I hope we will finally be able to judge the quality of the three candidates.

I would also thank SPS vice-chair Jörg Schneider, who organized an excellent Carboniferous-Permian transitional meeting in Freiberg, Germany between 21-27 July, 2014. A SPS business meeting was held during his meeting. The chair and vice-chair of the Carboniferous Subcommittee, Barry Richards and Xiangdong Wang attended the meeting. They both made a great progress on how to organize the joint working group on Carboniferous and Permian transition. It was a pity for me to miss this meeting because I had to give an oral defense for a NSFC project. A detailed report of the working group is given by Jörg Schneider et al. in this issue too.

There are a few important reports in this issue. In particular, I would mention that Valery Chernyk and Charles Henderson provided more extensive comments and discussions on the index species of the Artinskian-base GSSP. Irene Vuolo et al. reported an important discovery that *Sweetognathus merrilli* and *Sweetognathus whitei* are in association with *Streptognathodus* sp., *Mesogondolella monstra* from a single sample in SE Pamir. As we have already known, *Streptognathodus* became extinct in middle Sakmarian based on available records globally. Therefore, it is a problem if we choose *Sweetognathus whitei* as the index species for the Artinskian-base GSSP because it also occurs in the middle Sakmarian of SE Pamir. If the *Sweetognathus* species at the Dal'ny Tulkas section in Southern Urals is different from that found in Pamir, then the southern Urals species needs to be described and the stratigraphic relationship between those *Sweetognathus* species needs to be clarified in the proposal. In addition, Daniel Vachard provides an interesting review on the temporal and spatial distributions of the foraminifer genus *Colaniella*, which is latest Permian (Changhsingian) in age.

I thank all contributors for this issue and I would like to remind that we look forward to your opinions on the remaining GSSPs.

SUBCOMMISSION ON PERMIAN STRATIGRAPHY

ANNUAL REPORT 2014

1. TITLE OF CONSTITUENT BODY and NAME OF REPORTER

International Subcommittee on Permian Stratigraphy (SPS)

Submitted by:

Shuzhong Shen, SPS Chairman

State Key Laboratory of Palaeobiology and Stratigraphy

Nanjing Institute of Geology and Palaeontology

Chinese Academy of Sciences

39 East Beijing Road, Nanjing, Jiangsu 210008, P.R. China

E-mail: szhen@nigpas.ac.cn; shen_shuzhong@yahoo.com

1. OVERALL OBJECTIVES, AND FIT WITHIN IUGS SCIENCE POLICY

Subcommission Objectives: The Subcommission's primary objective is to define the series and stages of the Permian, by means of internationally agreed GSSP's, and to provide the international forum for scientific discussion and interchange on all aspects of the Permian, but specifically on refined regional correlations.

Fit within IUGS Science Policy: The objectives of the Subcommission involve two main aspects of IUGS policy: 1. The development of an internationally agreed chronostratigraphic scale with units defined by GSSP's where appropriate and related to a hierarchy of units to maximize relative time resolution within the Permian System; and 2. Establishment of framework and systems to encourage international collaboration in understanding the evolution of the Earth during the Permian Period.

3a. CHIEF ACCOMPLISHMENTS AND PRODUCTS IN 2013

The proposals of the Sakmarian-base and Artinskian-base GSSPs have been published in *Permophiles* 58. After the proposals were published, we received a couple of comments and discussions on the conodont taxonomy for the index species and quality of the sections from the working group members, which have also been published in the subsequent *Permophiles* 59. Since discrepancies on the taxonomy of conodonts and selection of the conodont index species for the definition of the two GSSPs are present in the working group, voting for the proposals in SPS has been postponed.

In addition, we organized an international group to do a joint field excursion on the Guadalupian Series in West Texas in May, 2013. During this field excursion more than 1000 kg samples were collected for conodont and high-resolution geochemical analyses. Three GSSP markers were placed at the GSSP sections. We have processed all conodont samples and tried to get the lineage for the three GSSPs.

3b List of major publications of subcommission work (books, special volumes, key scientific paper)

Two issues of *Permophiles* (Issues 58 and 59) have been published since November, 2013.

Two proposals for the Sakmarian-base and Artinskian-base GSSP have been published in *Permophiles* 58. They will be used for voting in SPS after the WG has updated the proposals following the suggestions and comments from the WG members and SPS voting members.

An updated Permian timescale has been published in the proceeding volume of STRATI 2013 by Shen and Henderson (2014).

A paper to call restudy of the base of the Permian (Lucas, 2013) and a reply (Davydov, 2013) were published in *Permophiles* 58.

3c. Problems encountered, if appropriate

We have encountered problems that discrepancies in conodont taxonomy and selection of the index species of the two proposals for Sakmarian-base and Artinskian-base GSSPs are present.

We also met a problem for the Lopingian-base GSSP which will be flooded after a dam established in 5 years for electronic power in the downstream of the Hongshui River in Guangxi, South China.

We have extensively discussed with the local government and a detailed plan for searching the replacement of the GSSP section nearby the GSSP has been made.

4a. OBJECTIVES AND WORK PLAN FOR NEXT YEAR (2014)

The primary objectives are to complete the last three GSSPs (Sakmarian, Artinskian, and Kungurian stages).

4b. Specific GSSP Focus for 2014

The priority of 2014 for GSSP is to decide which index species we should use for the definitions of the Sakmarian-base and Artinskian-base GSSPs and the index species should be formally described and published before a voting can go ahead.

5. SUMMARY OF EXPENDITURES IN 2013

As planned in the Annual Report 2013, SPS secretary Lucia Angiolini and former SPS chair Charles Henderson visited Nanjing in March, 2014 for *Permophiles* and discussion of the plan for the Sakmarian-base and Artinskian-base GSSPs. The fund from ICS has been partly spent on paying their stay in Nanjing (US\$956). An SPS business meeting was held in Freiberg, Germany and chaired by the SPS vice-chair Joerg Schneider, which costed 350US\$. SPS chair Shuzhong Shen traveled to Milan on December 9, 2014 for the editing of *Permophiles* 60 as a part of task with SPS Secretary Lucia Angiolini. This costs about 500US\$. We still have ~1700US\$ surplus from this year's budget. This is mainly because the Freiberg business meeting did not spend money for inviting young colleagues to attend the meeting. We will transfer this money to next year's budget for organizing the field excursion to visit the three potential GSSPs in southern Urals and ICCP business meeting in 2015 in Kazan, Russia.

6. BUDGET REQUESTS AND ICS COMPONENT FOR 2014

- 1) A field excursion on the three potential GSSP sections in southern Urals will be organized by Valery Chernyk (XVIII ICCP-A3). We will invite all voting members to attend the field excursion (US\$4500).
- 2) A session and an SPS business meeting on the Permian GSSPs will be organized during the 15th ICCP meeting (500US\$).
- 3) Supporting a part of Lucia Angiolini's stay in Nanjing in May, 2015 and editing *Permophiles* (US\$1000).
- 4) I have not decided to attend the STRATI 2015 Conference yet depending on time availability. I may use a part of budget for this meeting or use my own project money.

In total: US\$4300 [=6000 (budget for 2015) -1700 (surplus from 2014)]

APPENDICES

7. CHIEF ACCOMPLISHMENTS OVER PAST FIVE YEARS (2009-2014)

- 1) A new SPS website has been established.
- 2) Three GSSP bronze markers have been placed on the GSSPs in the Guadalupe National Park in the USA.
- 3) The high-resolution timescale of the Permian system has been significantly refined (see SPS webpage Permian Timescale).

- 4) SPS decided to search a new GSSP candidate for the Kungurian Stage after an investigation on the previous candidates. Now two candidates for the Kungurian-base GSSP are available, but further work is necessary before a voting process is conducted.
- 5) Significant progress on the Sakmarian-base and Artinskian-base GSSP candidates has been made. Proposals for voting have been published and extensively discussed.
- 6) Two monuments have been built and a protected area has been established at Penglaitan, Laibin, Guangxi Province, China for the Wuchiapingian-base GSSP.
- 7) Seven formal issues and two supplementary issues of Permophiles have been published since 2009.
- 8) A working Group on the Carboniferous-Permian transition between marine and non-marine has been initiated in 2014.

8. OBJECTIVES AND WORK PLAN FOR NEXT 4 YEARS (2014-2018)

- 1) Publishing the revised versions of the proposals, organizing the field excursions and establishing the three (at least two) GSSPs for the Cisuralian.
- 2) Organizing a working group on the Guadalupian and global correlation for chemostratigraphy and geochronologic calibration. Publish the official papers for the three Guadalupian GSSPs.
- 3) Searching the replacement of the Lopingian-base GSSP nearby the stratotype section at Penglaitan, Guangxi, South China because the original will be flooded in 5-10 years by a dam for electric power.
- 4) Developing a large working group on the correlation between marine and continental sequences. This has already been initiated.

9. ORGANIZATION AND SUBCOMMISSION MEMBERSHIP

9a Names and Addresses of Current Officers and Voting Members

See new officers and voting members since August, 2012 in this issue.

9b List of Working (Task) Groups and their officers

- 1) Kungurian-base GSSP Working Group; Chair-Bruce Wardlaw.
- 2) Sakmarian-base and Artinskian-base GSSPs Working Group; Chair-Valery Chernykh.
- 3) Guadalupian Series and global correlation; Chair-Charles Henderson.
- 4) Correlation between marine and continental Carboniferous-Permian Transition; Chair-Joerg Schneider.
- 5) Neotethys, Paleotethys, and South China correlations; Chairs Lucia Angiolini and Yue Wang.

9c Interfaces with other international project

SPS interacts with many international projects on formal and informal levels. SPS has taken an active role in the development of a project on the correlation between marine and continental Permian sequences bilaterally supported under the foundation of the Sino-German Centre for Research Promotion (SGCRP) by NSFC and DFG. In 2014, SPS chair organized an international

cooperative project on the correlation of the Guadalupian Series between South China and Mt. Guadalupe in Texas, USA, which has been approved by NSFC.

Officers and Voting Members since August, 2012

Prof. Lucia Angiolini (Secretary)

Dipartimento di Scienze Terra "A. Desio"
Via Manngiagalli 34, 20133, Milano, Italy
E-mail: lucia.angiolini@unimi.it

Dr. Alexander Biakov

Northeast Interdisciplinary Scientific Research Institute
Far East Branch, Russian Academy of Sciences,
Portovaya ul. 16, Magadan, 685000 Russia
E-mail: abiakov@mail.ru

Dr. Valery Chernykh

Institute of Geology and Geochemistry
Urals Branch of Russian Academy of Science
Pochtovy per 7,
Ekaterinburg 620154 Russia
E-mail: vtschernich@mail.ru; chernykh@igg.uran.ru

Dr. Nestor R. Cuneo

Museo Paleontologico Egidio Feruglio
(U9100GYO) Av. Fontana 140,
Trelew, Chubut, Patagonia Argentina
E-mail: rcuneo@mef.org.ar

Dr. Vladimir Davydov

Department of Geosciences, Boise State University
1910 University Drive, Boise ID 83725 USA
E-mail: vdavydov@boisestate.edu

Dr. Clinton B. Foster

Australian Geological Survey Organization
G.P.O. Box 378, Canberra 2601 Australia
E-mail: clinton.foster@ga.gov.au

Prof. Charles M. Henderson

Dept. of Geoscience, University of Calgary,
Calgary, Alberta, Canada T2N1N4
E-mail: cmhender@ucalgary.ca

Dr. Galina Kotlyar

All-Russian Geological Research Institute
Sredny pr. 74,
St. Petersburg 199026 Russia
E-mail: Galina_Kotlyar@vsegei.ru