

of the 14th International Permian-Triassic Field Workshop in Jordan, organised and guided by Abdalla M.B. Abu Hamad of Amman University. International participants from Europe, Israel and China visited several well exposed Permian-Triassic sections and had a good look also at the Permian-Triassic boundary interval.

This contribution is followed by another interesting and very well illustrated field work report by Sahakyan et al., who describe the IGCP 630 Conference and Field Workshop, October 8-14, 2017, held in Armenia. During the conference and field workshop organized by Lilit Sahakyan, Aymon Baud, and Zhong-Qiang Chen, an international team had the opportunity to visit the very famous Upper-Permian-Triassic successions of Armenia at the Ogbin, Chanakchi and Vedi sections. Remarkable are the PTB shales and the basal Triassic giant sponge-microbial buildups.

The issue ends with a few advertisements on publications and conferences that may be of interest to the Permian community.

Future issues of Permophiles

The next issue of Permophiles will be the 66th 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 66** is **30th June, 2018**. 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, letters, comments, answers and advice to improve our communication as we move forward.

Notes from the SPS Chair

Shu-Zhong Shen

First of all, I would thank Aymon Baud, Lilit Sahakyan, and Zhongqiang Chen for their organization of the IGCP 630 meeting in Yerevan and field excursion in southeast Armenia. The field excursion was fantastic and provided an excellent opportunity to visit a few well-known traditional Permian-Triassic sections which were described by Ruzhentsev and Sraytcheva (1965) (see a report by Aymon Baud et al. in this issue). We also enjoyed the local culture, recreation and hospitality which were far beyond geology. I would also thank Lucia Angiolini and Gaia Crippa for having organized a field excursion in the Abadeh area in central Iran. Our group had already visited the Abadeh section in 2009, but, unfortunately, some sample bags were damaged during the shipment and this time we collected much denser samples at the Abadeh section. The outcrops are wonderful in the Abadeh area. We saw a surprisingly thick Capitanian deposits at the section. Thank to Mansour Ghorbani for his excellent organization of this field trip and to Mohsen Ghorbani and Masoud Ovissi for their hard work with us in the field.

Charles and I also organize a field trip to the Guadalupe

Mountain National Park in Texas and measured a new section which contains more strata across the Wordian/Capitanian boundary. We also visited all the GSSP sections again and collected more samples to test the FADs of the index species and quality of those GSSP. We thank Jonena Hearst for her kind support during the field work.

I am pleased to announce that we have submitted the Sakmarian-base GSSP proposal to the International Commission on Stratigraphy (ICS) for discussion and voting. We hope this proposal can be approved in 2018 and we can continue to work on the Artinskian-base and Kungurian-base GSSP proposals. I would thank our Russian colleagues who excavated the Dalny Tulkas and Mechetlino Quarry sections. I would herein call again that all the SPS voting members are welcome to visit and collect samples for these two candidate sections. SPS has a little money to support any voting member of SPS to go to southern Urals for GSSP work.

A Special Publication 450 of Geological Society, London titled "The Permian Timescale" edited by Spencer Lucas and Shuzhong Shen has been recently published online (<http://sp.lyellcollection.org/online-first/450>) (also see a brief introduction of this special publication in this issue). The formal publication with page number will be available before February, 2018. This Special Publication 450 includes 17 papers and it reviews the state of the art of the Permian timescale including multiple fossil biostratigraphy (conodonts, ammonoids, brachiopods, radiolarians, fusulinids, small foraminifers, rugose corals, tetrapod and tetrapod footprints, palynology, conchostracans, megafloora), magnetostratigraphy, geochronology, Sr chemostratigraphy, etc. In addition, Shuzhong Shen and Jiayu Rong are organizing a Special Issue of Science China Earth Sciences on the Geological Timescale of China which will be published in early 2018.

SUBCOMMISSION ON PERMIAN STRATIGRAPHY

ANNUAL REPORT 2017

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: szshen@nigpas.ac.cn

2. OVERALL OBJECTIVES, AND FIT WITHIN IUGS SCIENCE POLICY

Subcommission Objectives: The Subcommittee's primary objective is to define the series and stages of the Permian by means of internationally agreed GSSPs and establish a high-resolution temporal framework based on multidisciplinary (biostratigraphical, geochronological, chemostratigraphical, magnetostratigraphical etc.) approaches, and to provide the international forum for scientific discussion and interchange on all aspects of the Permian, but specifically on refined intercontinental

and 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 GSSPs 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 and life during the Permian Period.

3a. CHIEF ACCOMPLISHMENTS AND PRODUCTS IN 2017

A field excursion to all three GSSPs in the Guadalupe Mountains in Texas, USA between May 26 and June 4, 2017 was organized by Shuzhong Shen and Charles Henderson. Numerous supplementary samples for the three defined GSSP sections were collected. In addition, a new section potentially to provide an important reference for the Capitanian-base GSSP was measured and collected in a high-resolution way.

A formal proposal of the Sakmarian-base GSSP has been submitted to International Commission on Stratigraphy and is waiting for discussion and voting among ICS members. This proposal has been extensively discussed and revised based on numerous discussions among the SPS voting members. Finally, palynological data from the section were added in before it was submitted.

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

A volume of Special publication (*The Permian Timescales*. Geological Society, London, Special Publication **450**, <https://doi.org/10.1144/SP450.15>) has been organized by Lucas, S.G. and Shen, S.Z.). This volume reviews the state of the art of the Permian timescales of the SPS including geochronology, high-resolution biostratigraphy based on various fossil groups (conodonts, fusulinids, brachiopods, plant fossils, radiolarians etc.), magnetostratigraphy etc. and a latest Permian Timescale is also presented. All the papers are already available online and a formal printed publication will be available in January, 2018.

Two issues of *Permophiles* (Issues 63 and 64) have been published since October, 2016. They are all available on the SPS website (<http://permian.stratigraphy.org/pub/pub.asp>).

3c. Problems encountered, if appropriate

We have encountered problems that discrepancy in conodont taxonomy and selection of the index species of the Artinskian-base GSSP is present. The conodont species *Sweetognathus* aff. *whitei* was selected as the index species of the FAD, however, this species needs to be described and investigated intensively before it can be used for the definition.

We also met a problem for the Lopingian-base GSSP which will be flooded after a dam established in five 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 protected dam around the GSSP section has been designed and will be established which will cost about 45 millions Chinese Yuan. In addition, detailed field work for searching the replacement

of the GSSP section nearby the GSSP has been made in 2017. Field work to search replacement section in South China was carried out during 2016 as well.

4a. OBJECTIVES AND WORK PLAN FOR NEXT YEAR (2018)

The primary objectives are to complete the last three GSSPs (Sakmarian, Artinskian, and Kungurian stages) and redefine the three GSSPs of the Guadalupian Series (Roadian, Wordian and Capitanian). A formal proposal for the Sakmarian-base GSSP has been submitted to ICS. The Russian Stratigraphic Committee has excavated the Dalny Tukus (Artinskian-base) and Mechetlino Quarry (Kungurian-base) sections as well, SPS will call an international joint field excursion to collect various samples in those sections and will use a part of the 2018 budget to support the field excursions to southern Urals and any other activities related to GSSP establishment.

We will also extensively work on the new section and all the samples collected in 2017 from the three GSSP sections in the Guadalupe Mountains will be processed as early as possible.

4b. Specific GSSP Focus for 2018

The priority of 2018 for GSSP is to: 1) get the Sakmarian-base GSSP proposal for discussion and voting in ICS, 2) intensively study and clarify numerous problems in the three defined Guadalupian GSSPs, and 3) establish a protected dam around the Lopingian-base GSSP at Penglaitan, South China.

5. SUMMARY OF EXPENDITURES IN 2017

We received an allocated budget 2195.0 Euro from ICS this year. As planned in the 2016 annual report, this money was mainly used for supporting the publication of *Permophiles*, all activities of SPS voting members to do work related to GSSP. A joint field work in the Guadalupian Mountains National Park in Texas was organized in May, 2017. This little money from ICS is far from enough to cover all the expenditure of those activities.

6. BUDGET REQUESTS AND ICS COMPONENT FOR 2018

1. The Dalny Tukus and the Mechetlino Quarry sections for the Artinskian and Kungurian GSSPs have been excavated by the Russian colleagues. Although we called once to do field work in those potential GSSP sections, so far no voting members have gone there to do field work. So, we continue to call all voting members for field work on the three potential GSSP sections in southern Urals to collect samples. We will use a part of the 2018-year budget to support any voting member to go to southern Urals (2000US\$).
2. Shuzhong Shen will send some students to the Penglaitan section to guide the establishment of a dam to protect the Lopingian-base GSSP. This section will be flooded, if it is not protected, due to the establishment of a water power station in the downstream of the Hongshui River (1000US\$).
3. Shuzhong Shen will go to Milano in September, 2018 to meet SPS secretary Lucia Angiolini to edit the next *Permophiles* (2000US\$).

In total: US\$5000

APPENDICES

7. CHIEF ACCOMPLISHMENTS OVER PAST FIVE YEARS (2012-2017)

- 1) A Special Publication “The Permian Timescale” has been published online in Geological Society of London, Special Publication **450**.
- 2) Three GSSP bronze markers have been placed on the GSSPs in the Guadalupe National Park in USA.
- 3) A high-resolution timescale of the Permian system has been significantly refined and updated from time to time (see SPS webpage Permian Timescale, also *Permophiles* 64).
- 4) A formal proposal for the Sakmarian-base has been submitted to ICS. The Artinskian-base GSSP proposals have been published on *Permophiles* based on extensive discussions among SPS.
- 5) Two monuments have been built and a protected area has been established at Penglaitan, Laibin, Guangxi Province, China for the Wuchiapingian-base GSSP.
- 6) Nine formal issues and one supplementary issues of *Permophiles* have been published since 2011.
- 7) A Working Group on the Carboniferous-Permian transition between marine and non-marine sequences has been organized in 2015.

8. OBJECTIVES AND WORK PLAN FOR NEXT 4 YEARS (2018-2021)

- 1) Publishing the revised version of the proposals, organizing the field excursions and establishing the three (at least two) GSSPs for the Cisuralian.
- 2) Continue to work on the Guadalupian GSSPs 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 near-by the stratotype section at Penglaitan, Guangxi, South China because the original will be flooded in 5-10 years by a dam for electronic power. Some progresses have been made during the last two years.

9. ORGANIZATION AND SUBCOMMISSION MEMBERSHIP

9a. Names and Addresses of Current Officers and Voting Members

Prof. Lucia Angiolini (SPS Secretary)

Dipartimento di Scienze Terra “A. DEsio”
Via Mangiagalli 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

Dr. Nestor R. Cuneo

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

Prof. Katsumi Ueno

Department of Earth System Science
Fukuoka University
Fukuoka 814-0180 JAPAN
E-mail: katsumi@fukuoka-u.ac.jp

Prof. Charles M. Henderson

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

Dr. Valeriy K. Golubev

Borissiak Paleontological Institute
Russian Academy of Sciences
Profsoyuznaya str. 123,
Moscow, 117997 Russia
E-mail: vg@paleo.ru

Prof. Spencer G. Lucas

New Mexico Museum of Natural History and Science
1801 Mountain Road N. W.
Albuquerque, New Mexico 87104-1375 USA
E-mail: spencer.lucas@state.nm.us

Dr. Ausonio Ronchi

Dipartimento di Scienze della Terra e dell’Ambiente
Università di Pavia - Via Ferrata 1, 27100 PV, ITALY
voce +39-0382-985856
E-mail: ausonio.ronchi@unipv.it

Dr. Tamra A. Schiappa

Department of Geography, Geology and the Environment
Slippery Rock University
Slippery Rock, PA 16057 USA
E-mail: tamra.schiappa@sru.edu