

Seyed Hamid Vaziri, Zhongqiang Chen, Yukio Isozaki, Xiaochi Jin, Barry Richards, Phil Heckel and Heinz Kozur. It was a short meeting and I reported on recent progress of SPS. I also attended the annual meeting of ICS during the congress on your behalf.

The next planned SPS business meetings will be held in Argentina during a field excursion and during ICOS 2009 (International Conodont Symposium) at the University of Calgary, Alberta, Canada during July 12-18, 2009 (see announcement elsewhere in this issue). One session at this meeting will be related to advances on correlation of the Cisuralian stages. Hopefully, soon after, we can move toward some final proposals for the GSSP definitions for the base of the Sakmarian, Artinskian and Kungurian.

Shuzhong has thanked all of the contributors for this issue, but I would like to add my thanks again to Prof. Cassinis for his contributions in this issue, including a report on the history of the Permian and Triassic Geologists Association (AGPT), which have largely concentrated their efforts on the continental Permian. Some of this work overlaps with the Continental Permian Working Group of SPS led by Joerg Schneider. I would like to challenge the AGPT community to contribute more to future issues of Permophiles. It is my view, once the GSSP process is complete for the Permian stages, that the correlation of events within continental successions to the International Time Scale is perhaps the most important future task for the Permian community and SPS. Once the GSSP process is completed and fully reported within two years at the most, it might be appropriate to turn over editorship of Permophiles to someone working in the Continental Permian successions.

REPORTS

SUBCOMMISSION ON PERMIAN STRATIGRAPHY ANNUAL REPORT 2008

1. TITLE OF CONSTITUENT BODY and NAME OF REPORTER

International Subcommittee on Permian Stratigraphy (SPS)

SUBMITTED BY:

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2. 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 as-

pects of the Permian, but specifically on refined regional correlations.

Fit within IUGS Science Policy: The objectives of the Subcommittee 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 frameworks and systems to encourage international collaboration in understanding the evolution of the Earth during the Permian Period.

3. ORGANIZATION

The Subcommittee has an Executive consisting of a Chairman, a Vice-Chairman, and a Secretary; all three are Voting Members of the Subcommittee. There are sixteen total Voting Members representing most regions of the world where Permian rocks are exposed.

The objectives of the Subcommittee are pursued by both stratigraphic and thematic Working Groups that are retired upon completion of their directed task. For example, the Working Groups on the Carboniferous-Permian Boundary, on the Guadalupian stages (Middle Permian), on the base-Lopingian boundary (base-Wuchiapingian Stage), and on base-Changhsingian have been retired upon the successful establishment of their defining GSSP's and ratification by IUGS. The current working groups include the following: 1. Cisuralian stages, 2. Continental Permian, 3. Transitional biotas as gateways for global correlation, 4. Neotethys, Paleotethys, and S. China Correlations, and 5. International Lopingian Working Group.

3a. Officers for 2004-2008:

Chair: Professor Charles M. Henderson, University of Calgary
Vice-Chair: Dr. Vladimir Davydov, Boise State University
Secretary: Dr. Shuzhong Shen, Nanjing Institute of Geology and Palaeontology

3b. Officers for 2008-2012: There were no objections from the voting membership, nor from the membership at-large, and therefore the above officers will continue in their respective capacities for a second term.

Chair: Professor Charles M. Henderson, University of Calgary
Vice-Chair: Dr. Vladimir Davydov, Boise State University
Secretary: Dr. Shuzhong Shen, Nanjing Institute of Geology and Palaeontology

SPS website is located at <http://www.nigpas.ac.cn/permian/web/index.asp>. This site includes all back issues of *Permophiles* in downloadable PDF format (#1 in 1978 to #51 June, 2008). A link to *Permophiles*/Permian research has also been established at <http://www.geo.ucalgary.ca/asrg>.

4. INTERFACES WITH OTHER INTERNATIONAL PROJECTS

SPS interacts with many international projects on formal and informal levels. SPS is taking an active role on the development of integrated chronostratigraphic databases by participating with CHRONOS and PALEOSTRAT (now GeoStratSys), which are NSF

funded initiatives. Vladimir Davydov and Walter Snyder are concentrating on developing their system to include improved taxonomic dictionaries, database sharing and manipulation with PALEOSTRAT. SPS is also involved in a NSFC supported study comparing the Proterozoic-Cambrian transition with the Permian-Triassic transition.

5. CHIEF ACCOMPLISHMENTS AND PRODUCTS IN 2008

GSSPs: Progress was made on the three remaining Lower Permian (Cisuralian) stage GSSPs including base-Sakmarian, base-Artinskian, and base-Kungurian. Samples collected during an international field excursion conducted in early July 2007 (reported in *Permophiles* #49; p. 4-6) have been processed for stable isotope geochemistry, radioisotopic ages and biostratigraphy. These new geochemical results will substantially add to the GSSP proposals currently in draft stage. Earlier drafts were restricted only to the paleontological signature. The geochemical samples will provide further correlation potential for the proposed GSSPs; these materials are being analyzed at Boise State University, University of Calgary, and the Nanjing Institute of Geology and Palaeontology. The biostratigraphy samples are intended to determine reproducibility of GSSP definitions. Once complete the proposals will go forward for a vote. We hope to complete this task by the end of 2009.

Publications: The December 2007 issue of *Permophiles* (#50) was produced at Nanjing China during January 2008 and distributed as a pdf document to a mailing list of 280. The June 2008 issue (#51) was produced in July 2008 during a conodont workshop at the University of Calgary. We now have a complete series of *Permophiles* on our website (1978 to 2008).

Meetings: The SPS conducted two business meetings including 1) during an International Field Expedition to the Sydney Basin, January 2008, and 2) during the International Geological Congress at Oslo, Norway during August 2008. The former was reported in *Permophiles* 50 and the latter will be reported in *Permophiles* #52 in December 2008. We also held a workshop during July at the University of Calgary on conodont correlation problems associated with the Late Permian in Iran. The results were reported in *Permophiles* 51.

Membership: There were no changes to the membership in 2008, but as noted previously we have made several changes over the past four years. We currently have 16 voting members representing Australia (2), Canada (1), China (3), France (1), Germany (1), Italy (1), Japan (1), Russia (3), and United States (3). We also have five honorary Members.

6. CHIEF PROBLEMS ENCOUNTERED IN 2008

There were no major problems in 2008. The delayed Cisuralian excursion, which was finally conducted in July 2007 meant that we could not complete the base-Sakmarian GSSP proposal in 2007 as planned. It took some time to process samples, but geochemical data have been recently plotted against sections including the base-Sakmarian. I will push to see this task completed in 2009.

7. SUMMARY OF EXPENDITURES IN 2008:

INCOME

Donations:	\$ 350.00
University of Calgary (1):	\$8,350.00
NIGPAS (2):	\$1,600.00
ICS (3):	\$2,200.00

TOTAL: \$12,500.00 (quoted in US\$ using par as the conversion from Canadian\$; recently this exchange has dropped substantially)

(1) University of Calgary support from NSERC grant to Charles Henderson for travel to Nanjing, to Sydney Basin Australia and partial travel costs to IGC at Oslo. Hotel, food, and logistical costs for conodont workshop.

(2) NIGPAS (Nanjing Institute of Geology and Palaeontology) support from NSF-C grant to Shuzhong Shen for travel support to Calgary, printing and website costs.

(3) Included normal \$800 for expenses and one-time \$1400 for travel subsidy to IGC in Oslo.

EXPENDITURES

Printing, Mailing, and Web support <i>Permophiles</i> :	\$1,150.00
Travel costs to Australia	\$4,000.00
Travel costs for <i>Permophiles</i> Production:	\$2,950.00
Travel costs for Oslo:	\$3,200.00
Logistical costs for Workshop	\$1,200.00

TOTAL: \$12,500.00 (quoted in US\$)

BALANCE: \$0.00

8. WORK PLAN, CRITICAL MILESTONES, ANTICIPATED RESULTS AND COMMUNICATIONS TO BE ACHIEVED NEXT YEAR (2009):

1. Report of isotopic results of Cisuralian samples from Russian; January 2009 in *Permophiles*.
2. Production of *Permophiles* #52 in China during January 2009.
3. Business meeting during International Field Expedition to Argentina; February 2009.
4. Production of *Permophiles* #53 in Calgary during July 2009.
5. Completion of base-Sakmarian GSSP proposal during July 2009.
6. Business meeting to be held during International Conodont Symposium (ICOS): July 2009.
7. Completion of base-Artinskian and base-Kungurian GSSP proposals; December 2009.

9. BUDGET AND ICS COMPONENT FOR 2009

EXPENDITURES

Travel; Argentina, China, Calgary for meetings and <i>Permophiles</i> (1)	\$7,000.00
Conodont workshop and GSSP preparation during ICOS	\$2,000.00
<i>Permophiles</i> and GSSP proposals printing and postage and web	\$1,050.00
Travel of Shen to Calgary, Henderson to Argentina, Davydov to Calgary	

TOTAL 2009 BUDGET \$10,050.00

Income

Support from University of Calgary (Henderson; NSERC)	\$4,900.00
Support from NIGPAS (Shen; NSF-C)	\$1,600.00
Support from Boise State for Davydov travel to Calgary (NSF)	\$500.00
Anticipated donations for <i>Permophiles</i>	\$ 250.00
Requested ICS contribution (1)	<u>\$2,800.00</u>
0.00	

TOTAL BUDGET REQUEST (ICS) \$2,800.00

1) Request is for \$800.00 to cover expenses for printing and postage for Permophiles, GSSP proposals, and some correspondence as well as website costs. In addition, SPS requests an extra \$2,000.00 to partially subsidize travel costs for key international participants to a workshop to be held during the International Conodont Symposium at the University of Calgary (July 2009). During this workshop we will focus on finalizing the GSSP proposal for the base-Sakmarian stage. This boundary is defined by conodonts, but specialists from other disciplines that normally would not attend ICOS will also be invited.

10. REVIEW CHIEF ACCOMPLISHMENTS OVER PAST FIVE YEARS (2004-2008)

The SPS has approved the general divisions of the Permian and has now had 6 GSSP's ratified by ICS and IUGS (Asselian, Roadian, Wordian, Capitanian, Wuchiapingian, Changhsingian). Proposals for the latter two stages were published in Episodes in 2006. Support for documentation (fieldwork and publications) of the various chronostratigraphic methods for the establishment of the GSSP's has been the most outstanding and differentiating character of this Subcommittee. *Permophiles* has become an internationally respected newsletter and bears an ISSN designation (1684-5927) and is deposited in the National Library of Canada; nine issues were published during the five year period. See Accomplishments in 2008 (above) for additional details.

11. OBJECTIVES AND WORK PLAN FOR NEXT 4 YEARS (2009-2012)

The primary objective was to complete the GSSP process by 2008 although delays in the field excursion to Urals have delayed this process. We currently anticipate that the last three GSSP's (Sakmarian, Artinskian, and Kungurian) should be ratified by the end of 2009. We will continue to produce two issues of *Permophiles* each year. We anticipate the following schedule:

1. A vote by SPS on the base-Sakmarian proposal will be conducted in August 2009.
2. Business meetings at Argentina Feb 2009, during ICOS at Calgary in July 2009.
3. A vote by SPS on the base-Artinskian is anticipated by late 2009.
4. A vote by SPS on the Kungurian is anticipated by late 2009.
5. Business meeting in 2010.
6. Business meeting at International Congress on Carb and Permian July 2011; Perth Australia.
7. Begin process for new SPS Chair to be in effect by IGC in Brisbane in 2012.

Once the GSSP process is completed SPS will shift focus toward three directions in 2010/2012: 1. correlations into continental deposits, 2. correlations across provincial boundaries and within the Tethys region, 3. detailed documentation of the geologic evolution of the Earth during the Permian with respect to the established chronostratigraphic framework.

12. WEBSITE STATUS AND ACTIVITIES:

SPS website is located at <http://www.nigpas.ac.cn/permian/web/index.asp>. This site is updated regularly and includes all back issues of *Permophiles* in downloadable PDF format (#1 in 1978 to

#51 June, 2008) as well as other information about SPS activities including annual reports, membership.... Shuzhong Shen at Nanjing China maintains the site and Henderson and Shen both have administrator rights.

13. IGC ACTIVITIES:

A business meeting was held at the 33rd IGC 5-14 August 2008.

14. FOUR YEAR SUMMARY OF ACTIVITIES:

GSSP's: The proposal for the base-Lopingian (base-Wuchiapingian) was ratified by ICS and IUGS in 2004. The proposal for the base-Changhsingian was voted and ratified by SPS in 2004. The proposal for the base-Changhsingian was voted and ratified by ICS/IUGS in 2005. The base-Wuchiapingian and base-Changhsingian (Upper Permian or Lopingian Series) GSSPs were published in Episodes (volume 29, No. 3&4) in 2006. Progress was made on the three remaining Lower Permian (Cisuralian) stage GSSPs including base-Sakmarian, base-Artinskian, and base-Kungurian. An international field excursion was conducted in early July 2007 (reported in *Permophiles* #49; p. 4-6) and samples for carbon isotopes, geochronology and biostratigraphy were collected and have now been processed. The geochemical samples will provide further correlation potential for the proposed GSSPs; these materials are being analyzed at Boise State University and the Nanjing Institute of Geology and Palaeontology. The biostratigraphy samples will determine reproducibility of GSSP definitions. We hope to complete this task no later than 2009.

Publications: The December 2003 issue of *Permophiles* (#43) was produced at Reston, Virginia in February 2004 and distributed to a mailing list of 280 from the University of Calgary later in the year. The June/December 2004 issue of *Permophiles* (#44) was produced at Pend Oreille, Idaho during October 2004 and was distributed in December 2004 from the University of Calgary. The June 2005 issue of *Permophiles* (#45) was produced at Nanjing China during June 2005 and distributed to a mailing list of 280. The December 2005 issue of *Permophiles* (#46) was produced at the University of Calgary during November 2005 and distributed as a pdf on our website. In addition the remaining back issues of *Permophiles* were scanned and added to our website providing a complete series of communications by Permophiles since 1978. The June 2006 issue of *Permophiles* (#47) was produced at Nanjing China during June 2006 and distributed as a pdf document to a mailing list of 280. The December 2006 issue of *Permophiles* (#48) was produced at the University of Calgary during November 2006 and distributed as a pdf on our website. We now have a complete series of Permophiles on our website (1978 to 2006). The June 2007 issue of *Permophiles* (#49) was produced at Nanjing China during June 2007 and distributed as a pdf document to a mailing list of 280. The December 2007 issue was produced in January 2008 after a field excursion to Australia. June 2008 issue (#52) was produced in Calgary in July 2008. We now have a complete series of Permophiles on our website (1978 to 2008).

Meetings: The SPS conducted its annual business meeting at the IGC meeting in Florence, Italy on August 23, 2004 with 23 people in attendance. This business meeting was preceded by a session on "The Lower Permian Cisuralian Stages" co-chaired by Boris Chuvashov and Charles Henderson. This was a successful session with six oral presentations and several posters that demonstrated clear progress in the definitions for the Cisuralian stages. Abstracts for these papers appear in

Permophiles issue #44. The SPS conducted two business meetings in 2005 including at the Triassic Chronostratigraphy and Biotic Recovery meeting in Chaohu, China on May 23, 2005 with 27 in attendance and at the Non-marine Permian Conference at Albuquerque New Mexico on Oct. 23, 2005 with 28 in attendance. This latter conference was organized by Spencer Lucas and was very successful with 68 people in attendance from 12 countries. The SPS conducted one business meeting at the 2nd International Palaeontology Congress in Beijing, China in June 2006. The SPS conducted one business meeting at the XVI International Congress on the Carboniferous and Permian in Nanjing, China in June 2007 and is reported in *Permophiles* #49. Business meetings were held in Sydney Australia (January 2008; *Permophiles* #50) and IGC in Oslo (August 2008).

Membership: During 2004 the voting membership of SPS saw considerable renewal. We have a completely new executive and six new voting members. In order to allow this renewal, a few members were asked to retire their voting status. The SPS executive has decided to name a new membership category, Honourary Members, to reflect the significant past and continuing contributions of these retiring voting members. The first Honourary Members are Professors Brian Glenister, Heinz Kozur, and Claude Spinosa. Honourary Members will receive GSSP proposals and be invited to comment on the merits of the proposal, but they will not vote on the proposal. The comments of Honourary Members will be included in subsequent versions of the proposal. Only one change in voting membership occurred in 2005. Professor Giuseppe Cassinis of Italy retired as a voting member and Dr. Marc Durand of Universite de Nancy, France was voted by the executive as a replacement. Two changes were made to voting membership in 2006. Dr. John Utting retired as a voting member and was named by the SPS Executive as a Honourary Member given his long service to SPS (past Secretary) and distinguished research record in Late Paleozoic palynology. Dr. Lucia Angiolini was nominated by the executive to fill this vacancy. This increased the membership from Europe bringing it more in line with other major regions. Secondly, we sadly lost our distinguished colleague and friend Professor Jin Yugan who died in June 2006 (see *Permophiles* 48 for a tribute). His was a very distinguished career in Late Paleozoic paleontology and service including as a past-Secretary and past-Chairman of SPS. He has been replaced as a voting member by Professor Yue Wang. There were no changes to the membership in 2007, but as noted in the 4 year summary we have made several changes over the past four years. In addition, the current executive will continue for a second term. We currently have 16 voting members representing Australia (2), Canada (1), China (3), France (1), Germany (1), Italy (1), Japan (1), Russia (3), and United States (3). We also have five honorary Members. No changes in 2008.

Summary (2004-2007): In 2004 a new SPS executive was named including Charles Henderson as Chair, Vladimir Davydov as Vice-Chair, and Shuzhong Shen as Secretary. In terms of the voting membership, nine of sixteen members are new during the reporting period (56% renewal). SPS also instituted a new membership category, Honourary Member, and five individuals have been so-named. SPS conducted five business meetings during the four-year period at major international meetings. Two GSSP proposals for the base-Wuchiapingian (also base-Lopingian Series) and base-Changhsingian were prepared, voted, ratified and published in Episodes during the past four years. Significant progress has been made on the last three Cisuralian GSSP proposals for the base-

Sakmarian, base-Artinskian, and base-Kungurian stages. An international workshop was conducted in July 2007 to determine reproducibility and accessibility as well as collect new geochemical data. During the reporting period, *Permophiles* #43 to #51 have been produced with #52 to come later this year. In addition, a website was constructed and hosted by the Nanjing Institute of Geology and Palaeontology during the reporting period. Among other items, this website has pdf versions of all issues of *Permophiles* dating back to #1 in 1978.

APPENDIX

Officers and Voting Members as of November 2007

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Correlation of Upper Permian localities in the Kuh-e-Ali Bashi area, NW Iran: old collections, old and new data

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Introduction

The controversial history of the Kuh-e-Ali Bashi localities was revised in Permophiles 51, (Henderson et al., 2008): the problem concerns the wrong correlations between locality 1 and locality 4 of the Kuh-e-Ali Bashi area (Fig. 1) figured and published by Teichert et al. (1973).

Old collections and old data

During October 1972, I had the opportunity to visit the area with the Professors P. Brönnimann and L. Zaninetti (Geneva University) and with the Dr. F. Bozorgnia (NIOC, Tehran). We sampled the Upper Permian and the Lower Triassic, but focused our research on the Elika Formation. The rock collection was stored at the NIOC in Tehran and the thin sections sent to the Paleontological Institute of Geneva University. Later we published a note in *Paläontologisches Zeitschrift* on the Elika Formation at Kuh-e-Ali Bashi (Baud et al. 1974).

During the late seventies, B. Kummel sent a Permian-Triassic rock collection of the Kuh-e-Ali Bashi localities to the Paleontological Institute of Geneva University for thin section analysis, with the reported sample number of Teichert et al. (1973). D. Altiner, a PhD student, worked on the micropaleontological content and published it in Altiner et al. (1980). I described the detailed lithology and the sedimentologic evolution and in figure 4 of this paper, we illustrated the profile of locality 1 of Teichert et al. (1973), in which the corresponding samples of locality 4 were marked by * and placed according to the Teichert et al. (1973) correlations.

In this open marine deep-water red limestones and marls, it was not possible to discriminate the Dzhulfian from the Dorashamian foraminifer occurrences.

This Kuh-e-Ali Bashi Permian-Triassic collection, with the thin sections, was given in 1984 to the Geological Museum of Lausanne, Switzerland, and as Curator I used part of these samples for geochemical analysis and isotope studies. The Kuh-e-Ali Bashi (Julfa) C isotope profile was published in Baud et al. (1989), based on our own collection (Baud et al., 1974) and partly on the Kummel collection from locality 1. We analyzed separately the samples of the upper part of the locality 4, but never published it.

New data

After reading in Permophiles 51 the conclusions of Henderson et al., 2008 on reported Upper Permian conodont occurrences from northwestern Iran, I went to the Geological Museum of Lausanne to restudy the thin sections of the Kummel's Kuh-e-Ali Bashi collection. After careful examination of the thin sections from the upper part of the locality 4 of Teichert et al. (1973), I noted that the microfacies of samples 69SC-TL and -TM correspond closely to the microfacies of the samples 69SA-0 at the base of their locality 1 (ostracod-rich lime mudstone) and that the microfacies of samples 69SC-TU from the top of their locality 4 is very similar to the microfacies of the sample 69SA-2 (lime mudstone with spicules) of the lower part of their locality 1 (see Fig. 2).

All of these microfacies (Fig. 2) are significantly different from those of the *Paratirolites* beds (nodular lime mudstone with intraclasts and with micro-ammonoid and bivalve shells) at the top of locality 1 and those of the lower part of the Upper Julfa beds from the base of locality 4, a crinoid lime wackestone that corresponds to the crinoid limestones of Stepanov et al., 1969 (see Fig. 3).

Conclusions