

## THE GLOBAL TRIASSIC—CONFERENCE REPORT

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During May 2007, the New Mexico Museum of Natural History and Science in Albuquerque, New Mexico, USA, hosted “The Global Triassic,” an international symposium on the Triassic timescale and related topics that was also sponsored by the Subcommission on Triassic Stratigraphy (STS) and IGCP 467. The meeting began with a three-day fieldtrip to west-central Nevada to examine classic marine Triassic sections. Key localities examined included those at Fossil Hill and Favret Canyon, essential to Anisian ammonoid biostratigraphy, South Canyon in the New Pass Range, a potential GSSP for the base of the Carnian and New York Canyon in the Gabbs Valley Range, a potential GSSP for the base of the Hettangian (Triassic-Jurassic boundary).

The symposium in Albuquerque followed, and was attended by 63 scientists from the following countries: Australia, Austria, Canada, England, France, Germany, Italy, Japan, The Netherlands, Peoples Republic of China, Romania, Russia, Slovenia, Switzerland, and the USA. Three days of talks and posters (see program below) focused on definition of the Triassic GSSPs (first day), Triassic numerical ages, cyclostratigraphy, magnetostratigraphy and isotope stratigraphy (second day) and Triassic bio-events and nonmarine biostratigraphy (third day).

The post-meeting fieldtrip examined classic nonmarine Triassic sections (Moenkopi and Chinle groups) in New Mexico and Arizona. These included the Petrified Forest National Park in Arizona as well as a visit to the Meteor Crater (not a Triassic feature, though) and the nearby classic Moenkopi footprint and fossil bone quarries.

Some of the key scientific results of the meeting include:

1. Data presentation and discussion of the Triassic GSSPs that remain to be formally defined—bases of the Olenekian, Anisian, Carnian, Norian and Rhaetian.
2. The great potential for a carbon-isotope stratigraphy of the Triassic is clear, with particularly significant excursions during the Early Triassic indicating physical events and corresponding biotic shifts that affected the pace and nature of recovery after the end-Permian extinctions.
3. Both the radioisotopic age and magnetostratigraphic databases for the Triassic timescale are expanding and being refined.
4. New conodont and ammonoid data that continue to refine Triassic correlations.
5. New studies of key nonmarine groups, especially palynomorphs and vertebrates, are improving the understanding of biotic events on land during the Triassic and their application to nonmarine Triassic chronology.

The STS met in conjunction with the conference (see accompanying report here by C. McRoberts).

The proceedings of the conference and its fieldtrips have been published as Bulletins 40 and 41 of the New Mexico Museum of Natural History and Science, both edited by Spencer G. Lucas and Justin A. Spielmann. Bulletin 40 (“Triassic of the American West”) documents the meeting fieldtrips with 247 pages of roadlogs and related articles on the marine and nonmarine Triassic of Nevada, Utah, Arizona and New Mexico, USA. Bulletin 41 (“The Global Triassic”) is dedicated to Norman Silberling and Timothy Tozer and is 415 pages of articles and abstracts that encompass all the meeting presentations and other contributions.

The program of talks and posters:

**DAY 1—MAY 23, 2007**  
**Triassic timescale**

time	title	speaker
8:00 AM	Introduction/ Triassic timescale	S. Lucas/ M. Orchard
8:30 AM	The Permo-Triassic crisis is prolonged, and the PTB mass extinction is multi-phase.	Yin Hongfu
9:00 AM	Permian-Triassic climatic oscillations in the east Asian continental margin (Sikhote-Alin area), as indicated by fossils and carbon-isotope data	Yuri Zacharov
9:30 AM	Smithian (Early Triassic) ammonoid successions of the Tethys: new preliminary results from Tibet, India, Pakistan and Oman	T. Brühwiler
10:00 AM	The South Canyon section (New Pass Range, Nevada) and its bearing on the definition of the Ladinian/Carnian boundary	Marco Balini
10:30 AM	Coffee break	
11:00 AM	New constraints for the Ladinian-Carnian boundary in the southern Alps: Suggestions for global correlations	Paolo Mietto
11:30 PM	Sedimentary framework of the lower Black Bear Ridge section, British Columbia: A potential	John-Paul Zonneveld

	Carnian-Norian boundary GSSP	
12:00 PM	Conodont lineages across the Carnian-Norian boundary	Michael Orchard
12:30 PM	The Rhaetian candidate GSSP Steinbergkogel (Salzkammergut, Austria) and global correlation of the Norian-Rhaetian boundary	Leopold Krystyn
1.00 PM	Definition and potential GSSPs for the base of the Jurassic System	Spencer Lucas
1:30-4:00 PM	Lunch break	
4:00-7:00 PM	<p>Posters:</p> <p>Mark Hounslow--Magneto-biostratigraphy of the Middle Triassic and the Lower-Middle Triassic transition, central Spitsbergen: Interrelationship of Tethyan and Boreal stratigraphies</p> <p>Tatiana Klets and Alyona Kopylova--The problem of Triassic gondolellid conodont systematics (Conodontophorida, Conodonta)</p> <p>Toshifumi Komatsu--Bivalve assemblage in North Vietnam and South China following the end-Permian crisis</p> <p>Claude Monnet and Hugo Bucher--Ammonite-based correlation of the middle/late Anisian boundary between Nevada and the Southern Alps.</p> <p>Alda Nicora--New biostratigraphic data from the Pizzo Mondello section (Sicani Mounts, Sicily)</p> <p>James G. Ogg and Robert S. Nicoll--Triassic chronostratigraphic database and a display interface</p> <p>Joachim Szulc --Tectonic controls of the high-frequency sedimentary cycles in the Upper Triassic Dachstein platform carbonates, northern calcareous Alps</p> <p>Seyed Hamid Vaziri--Middle to Upper Triassic deep-water trace fossils from the Ashin Formation, Hakhlak area, Central Iran</p>	

**DAY 2—MAY 24, 2007****Triassic numerical ages, cyclostratigraphy, magnetostratigraphy and isotope stratigraphy**

Time	Title	speaker
8:00 AM	Critical view of the calibration of the Triassic time scale	Roland Mundil
8:30 AM	Early Triassic timescale and new U-Pb ages from south China: First calibration of the Early Triassic carbon cycle perturbations.	Hugo Bucher
9:00 AM	$^{40}\text{Ar}$ - $^{39}\text{Ar}$ constraints on the Norian-Rhaetian boundary, northern Vancouver, Island, Canada	Graham Nixon
9:30 AM	Calibration of Early and Middle Triassic time scales using orbital-climate cycles	M. Menning
10:00 AM	Coffee break	
10:30 AM	The Late Triassic astronomically-calibrated time scale: Advances and challenges	Paul Olsen
11:00 AM	Lower Triassic cyclostratigraphy in Chaohu, China	Jinnan Tong
11:30-1:00PM	Lunch	
1:00-1:30PM	Triassic magnetostratigraphy: Overview	Maureen Steiner
1:30 PM	What do we know about the magnetostratigraphy across the Triassic-Jurassic boundary?	L. Donohoo-Hurley
2:00 PM	The Early Triassic carbon, sulfur and nitrogen isotope record	V. Atudorei
2:30	$\delta^{13}\text{C}$ isotope curve in the Lower Triassic from shallow water carbonates in Japan, Panthalassa realm	M. Horacek
3:00	Coffee break	
3:15 PM	Interpreting the Upper Triassic carbon isotope record	Lawrence Tanner
3:45 PM	Towards a carbon isotope reference curve of the Upper Triassic	S. Rigoz
4:15 PM	Multistratigraphic constraints on the NW Tethyan "Carnian crisis"	Thomas Hornung
4:45 PM	Detailed carbon isotope analysis of Triassic-Jurassic key sections in the western Tethys realm	Micha Ruhl
5:15 PM	Organic biogeochemistry of the Triassic-Jurassic boundary	K. Williford
7-9 PM	Meeting of STS	

**DAY 3—MAY 25, 2007****Triassic bio-events, tectonics and nonmarine biostratigraphy**

Time	Title	Speaker
8:00 AM	Ecologic collapse of benthic communities from restricted platform to ramp during the Permian-Triassic mass extinction	Chen Zhong
8:30	Lower Triassic microbialites versus skeletal carbonates, a competition on the Gondwana margin	Aymon Baud
9:00 AM	Sponge-microbial stromatolites and coral-sponge reefs recovery in the Triassic of the Western Tethys domain	M. Szulc
9:30	Diversity dynamics and evolutionary ecology of Middle and Late Triassic halobiid and monotid bivalves	Christopher McRoberts
10:00 AM	Coffee break	
10:30 AM	Paleoecology of the Late Triassic extinction in southwest Britain	Luke Mander
11:00 AM	Triassic paleogeographic and tectonic evolution of southwestern Laurentia through Jurassic tectonic overprint	John Marzolf
11:30 AM	Conodont biostratigraphy and paleogeography of the Triassic	Robert Nicoll
12-1:30PM	Lunch	
1:30 PM	Upper Triassic Radiolaria and conodonts from San Hipolito Formation, Baja California Sur, Mexico	Patricia Whalen
2:00 PM	Late Triassic palynostratigraphy	W. Kuerschner
2:30 PM	Floral and palaeoenvironmental changes during the end-Triassic: New data from European key sections	N. Bonis
3:00 PM	Tetrapod footprints--potential and limits for biochronology of Triassic continental sequences	H. Klein
3.30	Coffee	
4:00 PM	Triassic nonmarine ichnofacies	A. Hunt
4:30 PM	Upper Triassic conchostracan biostratigraphy of the continental rift basins of eastern North America	H. Kozur
5:00 PM	Triassic tetrapod biostratigraphy and biochronology	J. Spielmann
5:30 PM	Late Triassic aetosaur biochronology revisited	A. Heckert
7-9 PM	Banquet	

Figure 1. Attendees of “The Global Triassic,” New Mexico Museum of Natural History and Science, Albuquerque, New Mexico, May 2007.