

This is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship.

PALAEOWORLD Editorial Office

State Key Laboratory of Palaeobiology and Stratigraphy
Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences
Beijingdonglu 39, 210008 Nanjing, PR China
e-mail: palaeoworld@nigpas.ac.cn

PALAEOWORLD online submission:

http://ees.elsevier.com/palwor/

PALAEOWORLD full-text (Volume 15 –) available at:

http://www.sciencedirect.com/science/journal/1871174X

CONTENTS

Preface
PENG Shanchi, ZHU Maoyan, and ZHAO Yuanlongvii
INTRODUCTION
Cambrian of the Hunan-Guizhou Region, South China
PENG Shanchi, and Loren E. BABCOCK
Special observations concerning the Sinian-Cambrian transition and its stratigraphic implications on the central and SW Yangtze Platform, China
Bernd-D. ERDTMANN, and Michael STEINER52
Stratigraphy, paleontology, and depositional setting of the Chengjiang Lagerstätte (Lower Cambrian), Yunnan, China
Loren E. BABCOCK, and ZHANG Wentang 66
Correlation in the Cambrian: puzzling facts or wrong concepts?
<i>Gerd GEYER</i> 87
Illustrations of polymeroid trilobites from the Huaqiao Formation (Middle-Upper Cambrian), Paibi and Wangcun sctions, northwestern Hunan, China
PENG Shanchi, Loren E. BABCOCK, and LIN Huanling99
FIELD EXCURSION GUIDES
ROUTE 1: SANCHA AND WA'ERGANG, HUNAN PROVINCE
The Sancha-Wangjiashan section, Hunan Province, China: occurrence of syngenetic Fe-Ni-Mo ore layers near the base of the lowermost Cambrian Niutitang Formation
Michael STEINER, and Bernd-D. ERDTMANN
Cambrian and Ordovician stratigraphy at Wa'ergang, Hunan Province, China: bases of the Waergangian and Taoyuanian stages of the Cambrian System
PENG Shanchi, Loren E. BABCOCK, LIN Huanling, and CHEN Yongan 132
ROUTE 2: WANGCUN, HUNAN PROVINCE
Cambrian stratigraphy at Wangcun, Hunan Province, China: stratotypes for bases of the Wangcunian and Youshuian stages
PENG Shanchi, Loren E. BABCOCK, LIN Huanling, CHEN Yongan, and ZHU Xuejian 151

ROUTE 3: PAIBI, HUNAN PROVINCE (3a); HUANGLIAN, GUIZHOU PROVINCE (3b) Cambrian stratigraphy at Paibi, Hunan Province, China: candidate section for a global unnamed series and reference section for the Waergangian Stage	
PENG Shanchi, Loren E. BABCOCK, LIN Huanling, CHEN Yongan, and ZHU Xuejian 162	
Cambrian stratigraphy at Huanglian, Guizhou Province, China: reference section for bases of the Nangaoan and Duyunian stages	
ZHAO Yuanlong, YU Youyi, YUAN Jinliang, YANG Xinglian, and GUO Qingjun 172	
ROUTE 4: WUHE, GUIZHOU PROVINCE	
Sinian-Cambrian stratigraphy at Wuhe, Taijiang County, Guizhou Province, China: interval from the Neoproterozoic tillite to the Upper Cambrian dolostone	
ZHU Maoyan, ZHANG Junming, ZHAO Yuanlong, YANG Aihua, and TAI Tongshu 182	
ROUTE 5: BALANG, GUIZHOU PROVINCE	
Cambrian stratigraphy at Balang, Guizhou Province, China: candidate section for a global unnamed series and stratotype section for the Taijiangian Stage	
ZHAO Yuanlong, YANG Ruidong, YUAN Jinliang, ZHU Maoyan, GUO Qingjun, YANG Xinglian, and TAI Tongshu189	
ROUTE 6: GEZHONGWU, GUIZHOU PROVINCE	
Sinian-Cambrian boundary stratigraphy at Gezhongwu, Zhijin County, Guizhou Province, China: phosphorite and small shelly fossils	
ZHU Maoyan, ZHANG Junming, and QIAN Yi209	
POST-CONFERENCE FIELD EXCURSIONS	
ROUTE 1: MAOTIANSHAN AND MA'ANSHAN, YUNNAN PROVINCE	
The Early Cambrian Chengjiang Biota: quarries of nonmineralized fossils at Maotianshan and Ma'anshan, Chengjiang County, Yunnan Province, China	
ZHU Maoyan, ZHANG Junming, and LI Guoxiang	
ROUTE 2: MEISHUCUN AREA, YUNNAN PROVINCE	
Precambrian-Cambrian boundary stratigraphy at Meishucun, Yunnan Province, China: base of the Cambrian and the first appearance of trilobite	
ZHU Maoyan, ZHANG Junming, Michael STEINER, and LI Guoxiang 226	
The Early Cambrian Chengjiang Biota: new quarry and discoveries near Ercaicun, Haikou Town, Kunming County, Yunnan Province, China	
ZHU Maoyan, ZHANG Junming, HU Shixue, WANG Haifeng, and LI Guoxiang236	

SOUTH CH	IINA	2001: AB	STRAC	TS:	SAN	ID SHORT PA	ΑF	PERS
Ichnofossils	and	microbial	activity	in	the	Precambrian	/	Cambrian
northwe	stern	Argentina						

Lower and Middle Cambrian boundary and trilobites from Northeast Siberian Platform	
<i>Igor V. KOROVNIKOV</i>	
Upper Cambrian levels of biostratigraphical correlation in the Khos-Nelege River reference section (northeastern flank of the Siberian Platform)	
Nadezhda P. LAZARENKO, and Tatyana V. PEGEL276	
Protists and the Precambrian-Cambrian skeletonization event	
Jere H. LIPPS	
Trophic styles in Neoproterozoic and Cambrian marine communities Jere H. LIPPS, Lisa-ann GERSHWIN and M. A. FEDONKIN	
Lower Cambrian of Siberian Platform	
V. A. LUCHININA, Yu. Ya. SHABANOV, and Igor V. KOROVNIKOV283	
Competitive candidate sections for the Middle-Upper Cambrian boundary stratotype in eastern Liaoning, North China	
LUO Kunli	
Lithostratigraphy and geochemistry of lowermost Cambrian deposits on the southwest edge of the North China Platform	
LUO Kunli	
Early Cambrian phytoplankton radiations and appearance of metazoans	
Malgorzata MOCZYDLOWSKA293	
On the Cambrian sediments in North Vietnam	
PHAM Kim Ngan 297	
Subdividing the upper part of the Cambrian System: a suggestion	
Richard A. ROBISON298	
Carbon isotope stratigraphy of the Upper Cambrian Steptoean Stage and equivalents worldwide	
Matthew R. SALTZMAN	
Trilobite faunal successions across the Cambrian-Ordovician boundary interval in Korea	
Jany W. SOHN, Seung-B. LEE, D. H. KIM, and Duck K. CHOI	

Peculiarities of Cambrian faunas and Cambrian stratigraphy Andrey Yu. ZHURAVLEV
The formation of the Early Cambrian Sinsk Lagerstätten and their biota (Siberian Platform)
Andrey Yu. ZHURAVLEV, Andrey Yu. IVANTSOV, Valentin A. KRASSILOV, Anton V. LEGUTA, and Galina T. USHATINSKAYA
LATE ARRIVED ABSTRACTS
Stratigraphic significance of Middle and Upper Cambrian protoconodonts and paraconodonts from Hunan, South China DONG Xiping, and Stig M. BERGSTRÖM
Cambrian inarticulate brachiopods from Nevada and Texas
Sarah RIEBOLDT

REFERENCE TO THIS ISSUE

It is suggested that either of the following alternatives should be used for future bibliographic reference to this issue:

- PENG Shanchi, and L. E. BABCOCK, 2001. Cambrian of the Hunan and Guizhou region, South China, p. 3-51. *In* Peng Shanchi, L. E. Babcock, and Zhu Maoyan (eds.), *The Cambrian System of South China*. Press of University of Science and Technology of China, Hefei.
- PENG Shanchi, and L. E. BABCOCK, 2001. Cambrian of the Hunan and Guizhou region, South China, p. 3-51. *In* Peng Shanchi, L. E. Babcock, and Zhu Maoyan (eds.), The Cambrian System of South China, *Palaeowolrd*, 10.

PREFACE

China offers some of the best and most important areas within the Gondwanan region to study Cambrian stratigraphy and paleontology. The newly proposed chronostratigraphic subdivision of the Cambrian of China is based principally on stratigraphic sections in Hunan and Guizhou provinces of South China. This region also hosts stratigraphic sections proposed as candidates for global boundary-stratotypes of two as-yet-unnamed Cambrian series. In 1998, the Cambrian Stage Subdivision Working Group of the International Subcommission on Cambrian Stratigraphy (ISCS), meeting in Las Vegas, Nevada, agreed to hold its Seventh Field Conference in South China. We are pleased to have this opportunity to highlight the excellent Cambrian succession that is developed in this region.

The Cambrian has not been formally subdivided yet, and searching for an internationally accepted subdivision has become one of the major goals of the ISCS in the last decade. International field conferences of the ISCS so far have been held in Morroco (western Gondwana), Spain, Newfoundland (western Avolonia), Sweden (Baltica), the western United States (Laurentia), and Argentina. Previous meetings have provided a catalyst for making great progress in the subdividing of Cambrian time. Recent recognition of a series of levels that have correlation potential internationally, and compilation of a preliminary global correlation chart of the Cambrian (G. Geyer and J. H. Shergold, 2000, Episodes, vol. 23, p. 188-195), are the most significant products of work to date by the ISCS. The Seventh Field Conference of the Cambrian Stage Subdivision Working Group in South China is the first ISCS meeting devoted to the Cambrian of eastern Gondwana. As the first such meeting of the 21th Century, we hope the South China meeting will bring the ISCS closer to finalizing choices for global stratotype sections and points for stage and series boundaries within the Cambrian.

This volume is intended to provide a concise and current introduction to the Cambrian stratigraphy of South China, as well as to provide an outlet for summaries of ongoing work on the Cambrian globally. The volume is divided into three parts. The first part consists of five articles that provide a general introduction to Cambrian stratigraphy and paleontology of South China, and particularly the lithostratigraphic, biostratigraphic, and chronostratigraphic subdivisions of rocks in that region. The second part consists of field excursion guides to key Cambrian sections in northwestern Hunan Province and eastern Guizhou Province. A guide for the post-conference excursion to eastern Yunnan Province is also included. In addition to providing summaries of previous work, these articles and guides contain extensive new information. The third part of this volume contains extended abstracts and short papers stemming from lectures and posters pre-

sented at the conference. Many of the papers focus on topics relevant to subdividing the Cambrian System.

In preparing for the conference and preparing this peer-reviewed volume, we received support from many colleagues and institutions. We particularly wish to thank L. E. Babcock (The Ohio State University) and B.-D. Erdtmann (Technische Universität Berlin) for their efforts. They were invited as members of the Organizing Committee not only because they are leading Cambrian scientists, but also because they are experts on the Cambrian of China. We also wish to thank Ms. Wu Minghua, who produced most of the computer drawings. We extend deep appreciation to the following institutions for their support of the conference:

National Natural Science Foundation of China
South-South Cooperation Fund, Chinese Academy of Sciences
Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences
Laboratory of Palaeobiology and Stratigraphy, Chinese Academy of Sciences
Palaeontological Society of China
Government of Guizhou Province
Guizhou University of Technology
405 Geological Team, Hunan Bureau of Geology and Mineral Resources
Government of Xiangxi Autonomous Prefecture of Miao and Tujia Minority Nationality
Local governments of Huayuan, Songtao, Taijiang, Zhijin, and Chengjiang Counties

It gives us great pleasure to welcome all participants to the Field Conference. We extend a special welcome to our overseas colleagues, and hope you have a pleasant and scientifically rewarding stay in China.

PENG Shanchi ZHU Maoyan ZHAO Yuanlong

Nanjing, July 2001