



LUND UNIVERSITY

Palaeogeographical significance of upper lower Cambrian (provisional Cambrian Series 2) trilobites from Gansu Province, China

Bergström, Jan; Zhou, Zhiqiang; Ahlberg, Per; Axheimer, Niklas

Published in:
Proceedings of the 4th IGCP 591 Annual Meeting

2014

[Link to publication](#)

Citation for published version (APA):
Bergström, J., Zhou, Z., Ahlberg, P., & Axheimer, N. (2014). Palaeogeographical significance of upper lower Cambrian (provisional Cambrian Series 2) trilobites from Gansu Province, China. *Proceedings of the 4th IGCP 591 Annual Meeting*, 17-17.

Total number of authors:
4

General rights

Unless other specific re-use rights are stated the following general rights apply:
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Read more about Creative commons licenses: <https://creativecommons.org/licenses/>

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

LUND UNIVERSITY

PO Box 117
221 00 Lund
+46 46-222 00 00

Institute of Ecology and Earth Sciences, University of Tartu
Institute of Geology at Tallinn University of Technology
Geological Survey of Estonia

4th Annual Meeting of IGCP 591
The Early to Middle Paleozoic Revolution
Estonia, 10-19 June 2014

Abstracts & Field Guide



Edited by
Heikki Bauert, Olle Hints, Tõnu Meidla & Peep Männik

Tartu, 2014

4th Annual Meeting of IGCP 591
The Early to Middle Paleozoic Revolution
Estonia, 10-19 June 2014

Organizing Committee:

Leho Ainsaar (Department of Geology, University of Tartu)
Heikki Bauert (Institute of Geology at Tallinn University of Technology)
Olle Hints (Institute of Geology at Tallinn University of Technology)
Tõnu Meidla (Department of Geology, University of Tartu)
Peep Männik (Institute of Geology at Tallinn University of Technology)
Anne Põldvere (Geological Survey of Estonia)
Oive Tinn (Department of Geology, University of Tartu)

Scientific Committee:

Mikael Calner (Department of Geology, Lund University)
Bradley D. Cramer (Department of Earth and Environmental Sciences, University of Iowa)
Dimitri Kaljo (Institute of Geology at Tallinn University of Technology)
Oliver Lehnert (GeoZentrum Nordbayern, Friedrich-Alexander Universität Erlangen)
Živilė Žigaitė (Evolutionary Biology Centre, Uppsala University)



www.igcp591.org



www.ut.ee



www.kik.ee



www.ttu.ee



Eesti Geoloogikeskus
Geological Survey of Estonia

www.egk.ee

Suggested reference format:

Munnecke, A. 2014. The Early Palaeozoic in motion. In: Bauert, H., Hints, O., Meidla, T. & Männik, P. (eds). *4th Annual Meeting of IGCP 591, Estonia, 10 - 19 June 2014. Abstracts and Field Guide*. University of Tartu, Tartu, p. 65.

Bauert, H., Hints, O., Meidla, T. & Männik, P. (eds). 2014. *4th Annual Meeting of IGCP 591, Estonia, 10-19 June 2014. Abstracts and Field Guide*. University of Tartu, Tartu, 202 pp.

Electronic copies of this publication may be obtained from the Department of Geology, Institute of Ecology and Earth Sciences, University of Tartu and Institute of Geology at Tallinn University of Technology.

ISBN 978-9985-4-0822-3

Palaeogeographical significance of upper lower Cambrian (provisional Cambrian Series 2) trilobites from Gansu Province, China

Jan Bergström¹†, Zhiqiang Zhou², Per Ahlberg³ and Niklas Axheimer³

¹ Swedish Museum of Natural History, Department of Palaeozoology, Sweden; † Deceased

² Xi'an Institute of Geology and Mineral Resources, 438 East You Yi Road, Xi'an 710054, China; zsy1940@163.com

³ Department of Geology, Lund University, Sölvegatan 12, SE-223 62 Lund, Sweden; per.ahlberg@geol.lu.se, niklas.axheimer@geol.lu.se

China is a complex collage of continental blocks and accretionary belts, as well as several smaller blocks and terranes, including amalgamation of the North China plates and the southern marginal areas of Siberia. As fossils are of fundamental importance for interpretation of complex palaeogeographical situations, providing age and geographic constraints in formulation of tectonic models, we have used palaeogeographically and biostratigraphically important trilobites from northwestern China in order to shed some light on early Cambrian plate configurations. Fossiliferous upper lower Cambrian (provisional Cambrian Series 2) rocks crop out sporadically in the Beishan area, northwestern Gansu Province of China. Trilobites have been collected from three measured sections through the Shuangyingshan Formation, a relatively thin, carbonate-dominated unit that is locally exposed in Subei County of the Beishan area. The trilobite fauna from this formation is dominated by eodiscoid and 'corynexochid' trilobites, together representing at least ten genera: *Serrodiscus*, *Tannudiscus*, *Calodiscus*, *Pagetides*, *Kootenia*, *Edelsteinaspis*, *Ptarmiganoides?*, *Politinella*, *Dinesus* and *Subeia*. Sixteen species have been identified, of which seven are identified with previously described taxa and nine described under open nomenclature. The composition of the fauna, and particularly the presence of species of *Edelsteinaspis*, *Dinesus* and *Politinella*, suggests affinity with Altai–Sayan and marginal Siberian trilobite faunas rather than Gondwanan ones, suggesting that the Middle Tianshan-Beishan Terrane may have been located fairly close to Siberia during middle–late Cambrian Epoch 2. The Beishan trilobite fauna is also similar to a coeval fauna from the Karaganda area in Kazakhstan. This indicates that the Middle Tianshan-Beishan Terrane may have formed part of the Kazakhstan Mid-Plate during Cambrian and Early Ordovician times. Following the closure of the Middle Tianshan Sea during the Darriwilian, the Middle Tianshan-Beishan Terrane was incorporated into the Tarim Plate.