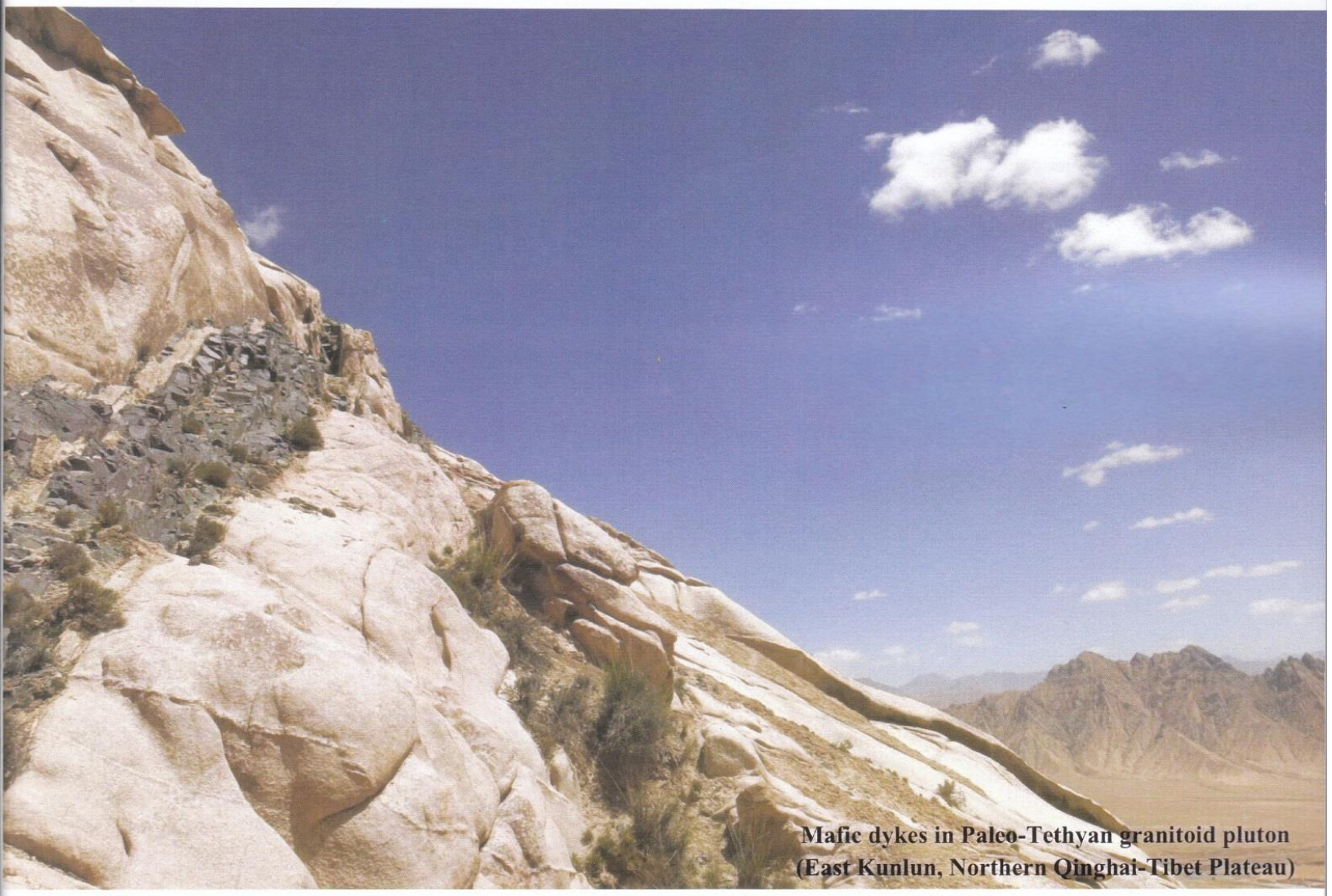
IWTOMA

# International Workshop on Tethyan Orogenesis and Metallogeny in Asia and Cooperation among Institutions of Higher Education

## Extended Abstract Volume

Edited by Changqian Ma, Paul T. Robinson and Yunlong He



Mafic dykes in Paleo-Tethyan granitoid pluton
(East Kunlun, Northern Qinghai-Tibet Plateau)

China University of Geosciences

11th - 16th October, 2014

Wuhan, China

# Stratigraphy and paleontology of marine Permian and Triassic sequences in the Nong Prue district, Kanchanaburi Province, Thailand

Krongkaew Jenjitpaiboon[1,2*], Chongpan Chonglakmani[1]

1. School of Geotechnology, Institute of Engineering, Suranaree University of Technology, Nakhon Ratchasima, 30000, Thailand.
2. Northeastern Research Institute of Petrified Wood and Mineral Resources, Nakhon Ratchasima Rajabhat University, Nakhon Ratchasima, 30000, Thailand.
*Corresponding author's e-mail address: kaew2912@hotmail.com

*Abstract*

*The aims of this study are to define the lithostratigraphy of marine Permian and Triassic sedimentary sequences, to identify the bivalve, ammonoid and fusulinid fauna in them, and to clarify the geological age and the depositional environment of these rocks. The area of study is located in the Nong Prue District, Kanchanaburi Province, western Thailand. Marine sedimentary sequences in the study area can be subdivided into four rock units, A, B, C and D, from oldest to youngest, respectively. Unit A consists of shale, calcareous shale and limestone and contains an ammonoid assemblage in the shales. Unit B unconformably overlies unit A and consists of limestone conglomerate, limestone, shale and siliceous shale. The limestone conglomerate contains fusulinid-bearing clasts. Unit C conformably overlies unit B and consists of shale and siliceous shale. Unit D conformably overlies unit C and consists of sandstone and shale. A bivalve assemblage has been discovered in the shales of units C and D.*

*The collected fossils were systematically identified and described. They consist of two Phyla, the Mollusca and the Protozoa. The Mollusca consists of two Classes, the Bivalvia and the Cephalopoda (Ammonoidea). The Bivalvia comprises three genera: Halobia, Posidonia and Daonella. Halobia consists of three species; Halobia (Halobia) talauana Wanner, Halobia (Halobia) styriaca Mojsisovics, and Halobia (Zittelihalobia) sp. The Cephalopoda (Ammonoidea) comprises seven species, i.e., Agathiceras sp., Adrianites sp., Popanoceras sp., Cyclolobus sp., Metalegoceras sp., Parapronorites sp. and Propinacoceras sp. The Protozoa consists of one Class, the Foraminifera which comprises one species: Verbeekina sp.*

*Unit A is assigned to the Middle Permian (Roadian-Wordian) based on the ammonoid faun; units C and D contain the Halobiid bivalve, which indicates a Late Triassic (Carnian-Norian) age; and the basal conglomerate of unit B contains fusulinid-bearing clasts suggesting that it is younger than late Middle Permian and is most likely Triassic based on stratigraphic grounds. Based on the lithological and paleontological evidence, the depositional environments of the studied rock units can be inferred. Unit A consists predominantly of laminated shales which indicate a low-energy environment. These shales contain ammonoids but without associated marine benthic fauna*

*suggesting that they were accumulated far from shore on a deep marine (abyssal plain) environment in the Middle Permian. The limestone conglomerate in unit B indicates a major tectonic event of the basin with considerable uplift and erosion which is represented by a strong unconformity after the late Middle Permian. Shales of units C and D also represent a low-energy environment. They contain only pelagic bivalves (Halobiids) suggesting that they accumulated in a deep marine (abyssal plain) environment in the Late Triassic.*

***Keywords**: Marine Triassic, Permian, Bivalve, Ammonoid, Fusulinid, Stratigraphy, Paleontology*