



POL-VIET  
2019

abstracts



Geology  
Geophysics

# Origin and Closure of the Paleotethys Ocean in Indochina

Jan GOLONKA<sup>1)\*</sup>, KHUONG The Hung<sup>2)</sup>, Michał KROBICKI<sup>1)</sup>,  
Tadeusz SŁOMKA<sup>1)</sup>, NGUYEN Van Giang<sup>3)</sup>, Aleksandra GAWĘDA<sup>4)</sup>

<sup>1)</sup> AGH University of Science and Technology, Faculty of Geology, Geophysics and Environmental Protection, Krakow, Poland

<sup>2)</sup> Hanoi University of Mining and Geology, Faculty of Geosciences and Geoengineering, Hanoi, Vietnam

<sup>3)</sup> Vietnam Academy of Science and Technology, Hanoi, Vietnam

<sup>4)</sup> Silesian University, Sosnowiec, Poland

<sup>1)\*</sup> Corresponding author: jgolonka@agh.edu.pl

## abstract

Paleotethys Ocean existed during Late Paleozoic and Early Mesozoic times. It was located between the Gondwana continent and ribbon of terranes that broke-off Gondwana and moved north toward Laurussia and Siberian. The timing of Paleotethys opening is a subject of controversy, but it certainly followed the Ordovician – Silurian Caledonian orogeny, formation of Laurussia and it existed during Devonian times. The ocean is quite wide in its central part and narrow in eastern and western parts. Assuming the movement of the Meguma plate approaching the Laurussian margin, the western branch of Paleotethys is located between Western Africa and Meguma. The subduction, which caused formation of the Variscan Orogenic Suture, extended along Laurussia Margin from Turkey to Mexico, so a part Paleotethys could also reach Mexico, in way similar to Mesozoic Neotethys.

East of Europe, the Paleotethys Ocean was quite wide between Gondwana, Scythian-Turan and Junggar- South Kazakhstan terranes and narrow between Gondwana and Tarim – North China plates. The branch of Paleotethys divided South China plate and Sibumasu terrane that belong to Gondwana. During Late Devonian, Indochina was located north of South China between two branches of Paleotethys. The Upper Devonian spreading-related volcanics and ophiolitic sequences are located in Song Ma zone in Vietnam and map, Lancangjiang zone in western Yunnan and Loei Fold Belt in Thailand. Both branches of Paleotethys were closed during Indosinian orogeny in SE Asia. The Indosinian orogeny was related to the amalgamation of Indoburma, Shan-Thai (Sibumasu) and Indochina terranes and closure of Paleotethys Ocean along Raub-Bentong, Sra Kaeo and Nan-Uttaradit suture between Sibumasu and Indochina and Ailaoshan suture between Sibumasu and South China. The collision between South Chinese plate and the North Chinese block began during the Late Permian and continued during the Triassic. The Qinling orogenic belt records this collision. The Shangdan zone between the North and South Qinling belts is the suture separating the convergence and collision between North and South Chinese plates. The post-suturing plutons were emplaced along the suture zone and on the adjacent plates. The new large Chinese-SE Asian plate including North and South China, Mongolia and eastern Cimmerian plates was consolidated at the Triassic – Jurassic boundary.



ISBN: 978-83-943772-3-6

