

## Accepted Manuscript

Evolution of the Central Asia Orogenic Supercollage since Late Neoproterozoic revised again

Alexander Yakubchuk

PII: S1342-937X(17)30036-9  
DOI: doi:[10.1016/j.gr.2016.12.010](https://doi.org/10.1016/j.gr.2016.12.010)  
Reference: GR 1731

To appear in: *Gondwana Research*

Received date: 2 January 2016  
Revised date: 12 December 2016  
Accepted date: 13 December 2016



Please cite this article as: Yakubchuk, Alexander, Evolution of the Central Asia Orogenic Supercollage since Late Neoproterozoic revised again, *Gondwana Research* (2017), doi:[10.1016/j.gr.2016.12.010](https://doi.org/10.1016/j.gr.2016.12.010)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

## Evolution of the Central Asia Orogenic Supercollage since Late Neoproterozoic Revised Again

*Alexander Yakubchuk* - Geological Institute, Russian Academy of Sciences, 7 Pyzhevskiy Pereulok, Moscow 119017 Russia

### Abstract

Revision of crustal architecture and evolution of the Central Asian Orogenic Supercollage (CAOS) between the breakup of Rodinia and assembly of Pangea shows that its internal pattern cannot be explained via a split of metamorphic terranes from and formation of juvenile magmatic arcs near the East European and Siberian cratons, followed by zone-parallel complex duplication and oroclinal bending of just one or two magmatic arcs/subduction zones against the rotating cratons. Also, it cannot be explained by breakup of multiple cratonic terranes and associated magmatic arcs from Gondwana and their drift across the Paleoasian Ocean towards Siberia. Instead, remnants of early Neoproterozoic oceanic lithosphere at the southern, western and northern periphery of the Siberian craton, as well as Neoproterozoic arc magmatism in terranes, now located in the middle of the CAOS, suggest oceanic spreading and subduction between Eastern Europe and Siberia even before the breakup of Rodinia at 740-720 Ma. Some Precambrian terranes in the western CAOS and Alai-Tarim-North China might have acted as a bridge between Eastern Europe and Siberia.

The CAOS evolution can be rather explained by multiple regroupings of old and juvenile crust in eastern Rodinia in response to: 1) 1000-740 Ma propagation of the Taimyr-Paleoasian oceanic spreading centres between Siberian and East European cratons towards Alai-Tarim-North China; 2) 665-540 Ma opening and expansion of the Mongol-Okhotsk Ocean, collision of Siberian and East European cratons with formation of the Timanides and tectonic isolation of the Paleoasian Ocean; 3) 520-450 Ma propagation of the Dzhair-Naiman and then Transurals-Turkestan oceanic spreading centres, possibly from the Paleotethys Ocean, between Eastern Europe and Alai-Tarim, essentially rearranging all CAOS terranes into a more or less present layout; and 4) middle to late Paleozoic expansion of the Paleotethys Ocean and collision of Alai-Tarim-North China cratons with CAOS terranes and Siberian craton to form the North Asian Paleoplate prior to its collision with Eastern Europe along the Urals to form Laurasia. Two to five subduction zones, some stable long-term and some short-living or radically reorganized in time, can be restored in the CAOS during different phases of its evolution.

*Keywords:* Central Asian orogenic supercollage, tectonics, geodynamic evolution

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات