



Paleozoic tectonics in the eastern part of Central Asian Orogenic Belt

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The Central Asian Orogenic Belt (CAOB) is the largest accretionary orogen in the world, which is responsible for considerable Phanerozoic juvenile crustal growth. The NE China and its adjacent areas compose the eastern segment of the CAOB, which is a key area for providing important evidence of the CAOB evolution and understanding the NE Asian tectonics. The eastern segment of the CAOB is composed tectonically of four micro-blocks and four sutures, i.e. Erguna block (EB), Xing'an block (XB), Songliao-Xilinhot block (SXB), Jiamusi block (JB), Xinlin-Xiguitu suture (XXS), Heihe-Hegenshan suture (HHS), Mudanjiang-Yilan suture (MYS) and Solonker-Xar Moron-Changchun-Yanji suture (SXCYS). The EB and XB were amalgamated by westward subduction, oceanic island accretions and final collision in ca. 500 Ma. The XB and SXB were amalgamated by subduction-related Early Paleozoic marginal arc, Late Paleozoic marginal arc and final collision in the late Early Carboniferous to early Late Carboniferous. The JB probably had been attached to the SXB in the Early Paleozoic, but broken apart from the SXB in the Triassic and collided back in the Jurassic. The closure of Paleo-Asian Ocean had experienced a long continue/episodic subduction-accretion processes on margins of the NCC to the south and the SXB to the north from the Early to Late Paleozoic. The final closure happened along the SXCYS, from west Solonker, Sonid Youqi, Kedanshan (Keshenketengqi), Xar Moron River through Songliao Basin via Kailu, Tongliao, Horqin Zuoyizhongqi, Changchun, to the east Panshi, Huadian, Dunhua, Yanji, with a scissors style closure in time from the Late Permian-Early Triassic in the west to the Late Permian-Middle Triassic in the east. The amalgamated blocks should compose a united micro-continent, named as Jiamusi-Mongolia Block (JMB) after Early Carboniferous, which bounded by Mongo-Okhotsk suture to the northwest, Solonker-Xar Moron-Changchun suture to the south and the eastern margin of JB to the east.