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The Gangdise During Triassic: Sea Rather Than Land

Ji Zhansheng *, WU Guichun and YAO Jianxin

Institute of Geology, Chinese Academy of Geological Science, No. 26 Baiwanzhuang Road, Beijing 100037, China

For a long time, the Gangdise region during Triassic has been marked as “Gangdise Oldland”, for no marine depositions of that time were found on it. This land is composed of most part of the Gangdise region, which is bounded separately by Bangong-Nujiang suture zone in the north and Indus-Yalung-Tsangpo suture zone in the south. In the early to middle Triassic, it was considered to cross the Bangong-Nujiang suture zone to the north and involve the south Qiangtang region (Fig.1). According to the documents before this century, the Triassic sediments were recorded to be scattered just along the borders of the Gangdise Oldland. For example, to the south margin, there are Chaqupu Formation (or Group) of early to middle

Triassic and Mailonggang Formation of late Triassic distributed near Lhasa area, and the limestones containing early Triassic ammonite fauna in Maila area. And to the north margin, there is Oula Formation (or Group) of early to middle Triassic distributed in Ritu area, which is located on the west-north border of the south Qiangtang region. In short, the previous knowledge about the palaeogeographic setting is concluded mainly from a few sedimentary data scattered in the borders of the Gangdise Oldland. How about the depositions in the inner part of the Gangdise region? And whether is it true that there are no sediments for south Qiangtang region during early to middle Triassic?

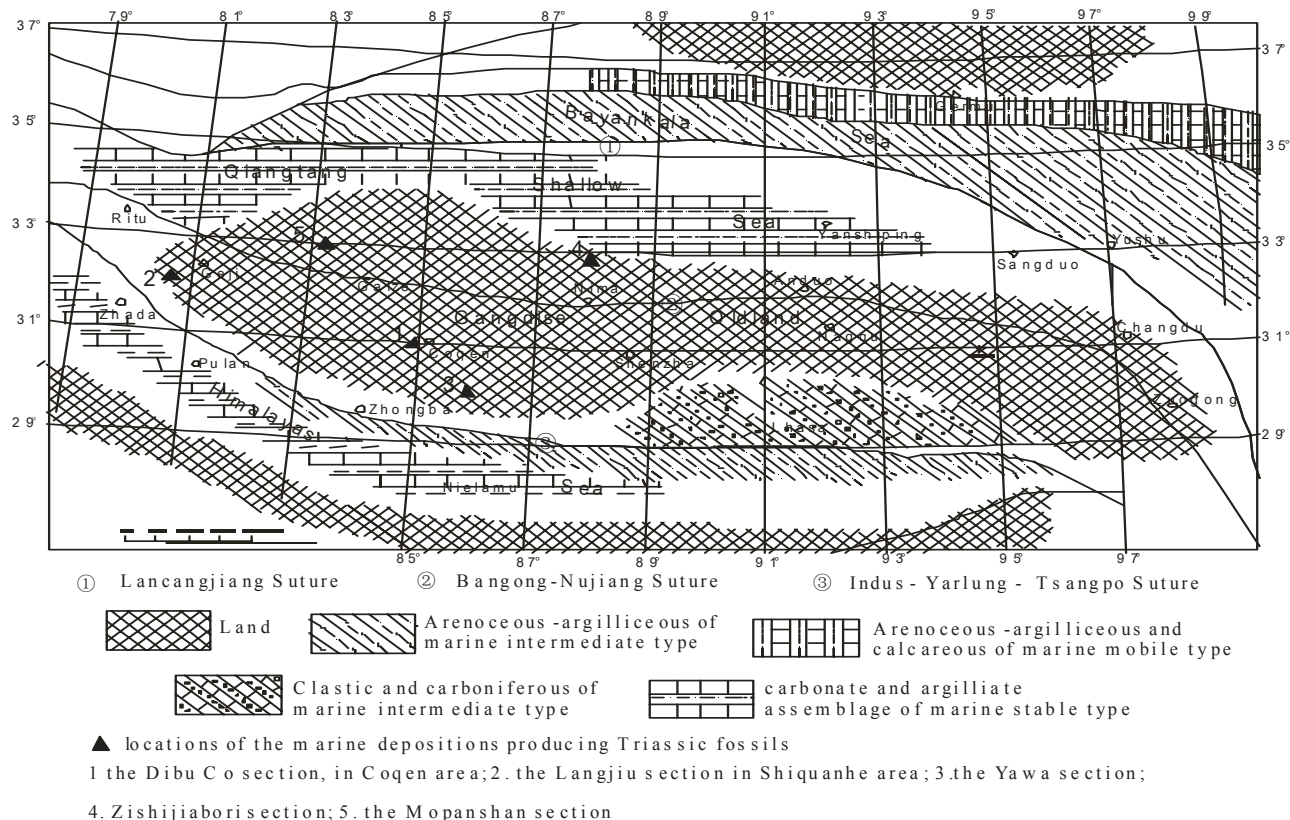


Fig.1 the Triassic sections on the “Gangdise Oldland”

* Corresponding author. E-mail: jizhansheng@vip.sina.

Through a dozen years of work on Tibet since the early in this century, some new fruits on Triassic biostratigraphy of Gangdise region have been yielded. They are listed as follows. 1) the Triassic in Coqen area. The Triassic sections in Coqen area are located in the middle western Gangdise region, where early to late Triassic conodonts have been reported successively: the conodont species of *Epigondolella* indicating Norian age of late Triassic were found from the Permian “Xiala Formation” (Ji et al., 2006), and prolific conodont Fauna indicating earliest to late Triassic were explored from the Permian “Xiala Formation” too (Wu et al., 2007; Ji et al., 2007); 2) the early Triassic in Shiquanhe area. The sections in Shiquanhe area are located in west Gangdise region, where early Triassic conodonts were discovered from the Permian “Zuozuo Formation. Ji et al. (2007) reported genus *Neospathodus* and *Gladigondolella*, and Zheng et al. (2007) found the genus *Pachycladina*, all these specimens belonging to late early Triassic; 3) the late Triassic of Yawa section in southern Gangdise region. In Yawa section, the Norian *Epigondolella* Fauna and the coral fossils of late Triassic were reported from the late Jurassic to early Cretaceous “Mamuxia Formation” (Ji et al., 2010). Clearly the above listed data are all from the

inner part of the Gangdise region. As to in the South Qiangtang area, which is considered to be part of the Gangdise Oldland during early to middle Triassic, some progresses have also been made by 1:250000 Geological Surveys. For example, late early Triassic conodont species *Neospathodus homeri* and *Ns.triangularis* were reported respectively from Mopanshan area by Guizhou Institute of Geological Survey (2005) and Zishijiabori area by Jilin Institute of Geological Survey (Zhang et al., 2005). The conodont samples in these two areas were analyzed by authors of this paper, so in the formal paper we will demonstrate the figures of them too.

As shown in Fig.1, the biostratigraphic data summarized above are spread in the inner part of the “Gangdise Oldland”. Additionally, through the further field work, there are more indications seemed to demonstrate that the Triassic depositions are widely spread in whole Gangdise. So we conclude that the palaeogeographic background of Gangdise during Triassic should be sea rather than land.

Key words: Gangdise; Triassic; biostratigraphic data; sea; land