

Late Cretaceous biostratigraphy and sea-level change in the northwest Tethys

Xi, Dangpeng^{1,*}, Zhang, W.¹, Li, Yuanhui¹, Sames, B.², Wan, X.¹, Wagreich, M.²

1) *China University of Geosciences (Beijing), Beijing, China, *E-mail: xdp1121@163.com*

2) *Department of Geodynamics and Sedimentology, University of Vienna, Vienna, Austria*

The Upper Cretaceous sediments of the west Tarim Basin include the remnants of a large epicontinental sea, northwest Tethys. Although the biostratigraphy and sea-level of the Tethys is well studied, the northwest Tethys is still less understood. Based on the analyses of sedimentation, foraminifera, ostracods, bivalves, and other fossils from Akeqi Section in the Kunlun Mts. area, together with the results of Simuhana Section in the Tianshan Mts. area, west Tarim Basin, an preliminary study of integrated biostratigraphy and sea-level change in the west Tarim Basin has been carried out. The Upper Cretaceous marine strata include the Kukebai, Wuyitage, Yigeziya and Tuyiluo formations. On the basis of biostratigraphic correlation of foraminifera, ostracods, calcareous nannofossils, bivalves, and other fossils, the proposed age of the Lower and Middle Kukebai Formation is Cenomanian to earliest Turonian; the Upper Kukebai is of Turonian to early Coniacian age. The Wuyitage Formation is late Coniacian to early Campanian, the Yigeziya Formation is late Campanian to early Maastrichtian, and the Tuyiluo Formation is late Maastrichtian in age, possibly extending into the Danian. The relative sea level began to rise since early Cenomanian, and reached a maximum during Turonian. After a subsequent sea level fall, another large marine transgression began during late Campanian to early Maastrichtian, and then, the sea level fell dramatically since late Maastrichtian. Though the biostratigraphy and sea level of Tianshan Mts. area and Kunlun Mts. area can be correlated, the marine transgression of Yigeziya Formation is larger in the Kunlun Mts. area.