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西昆仑库地蛇绿岩的二辉辉石岩和玄武岩锆石LA-ICP-MSU-Pb年龄及其意义

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摘要:

西昆仑造山带划分为北昆仑地体和南昆仑地体, 关于西昆仑造山带中库地蛇绿岩的形成时代一直存在争议。本文在库地布孜完沟超镁铁岩单元角闪石化二辉辉石岩和依歇克沟火山岩单元底部粒玄岩中获得了锆石LA-ICP-MSU-Pb年龄, 分别为 $494.28 \pm 0.86\text{Ma}$ 和 $500.30 \pm 8.0\text{Ma}$, 两者非常相近, 说明超镁铁岩单元和火山岩单元下部的玄武岩形成时代均为晚寒武世-早奥陶世, 是配套的蛇绿岩组成单元, 即库地蛇绿岩为早古生代早期原特提斯洋的产物。根据前人已发表的年代学、古生物学资料和本文的资料分析对比, 原划依莎克群火山岩单元可能是构造拼合叠置体, 应予解体。

英文摘要:

West Kunlun orogen is subdivided into north terrene and south terrene. The known Kudi ophiolite in south terrene of West Kunlun orogen is composed of ultramafic body in Buziwan valley and extrusive rocks in Yixieke valley from the bottom up. There has been a hot debating about age of Kudi ophiolite. This study has collected samples and obtained zircon LA-ICP-MS U-Pb ages of $494.28 \pm 0.86\text{Ma}$ and $500.30 \pm 8.0\text{Ma}$ respectively for websterite from Buziwan valley ultramafic body and dolerite from lower part of Yixieke valley extrusive rocks in Kudi ophiolite. These two ages are very similar and indicate that the ultramafic body and lower part of the extrusive rocks are composing members of Late Cambrian-Early Ordovician ophiolite, i.e., Kudi ophiolite was the residue of Prototethys Ocean. Previous studies by other researchers got the various age data for ultramafic rocks and extrusive rocks. The reason of large variety of age is that different authors used different dating methods (including Radiolarian) on different samples collected at different localities (especially for extrusive rocks of upper unit of the ophiolite), not to say most of the dating methods used were not fairly reliable. Our reliable in situ method age ($500.30 \pm 8.0\text{Ma}$) of dolerite from lowermost part of extrusive stratum is different from the another previously published in situ age datum (also reliable) for massive basalt, which amply demonstrate that the reason of age difference is because of different locality of sampling. Thus, the Yishake Group should be dismembered because it might be tectonicly superimposed stratum.

关键词: [时代](#) [锆石](#) [二辉辉石岩](#) [粒玄岩](#) [蛇绿岩](#) [库地](#) [西昆仑](#)

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