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摘要:

本文报道了藏北羌塘中部才多茶卡地区晚三叠世蓝闪石片岩及蓝闪石矿物的新发现及地质意义。通过对才多茶卡剖面第6层灰绿色变基性火山岩(绿片岩)中新发现以产蓝闪石类矿物为特征的中-高压变质岩系-蓝闪石片岩的矿物学特征进行了详细室内研究。从蓝闪石片岩中挑选出蓝闪石单矿物进行了 $40\text{Ar}/39\text{Ar}$ 同位素年龄测定, 结果为 $209\pm 4\text{Ma}$ , 等时线年龄值为 $216\pm 4\text{Ma}$ , 坪年龄与等时线年龄基本一致, 属于晚三叠世诺利期, 这与区域上羌塘片岩的中-高压变质事件相吻合。由于蓝闪石类矿物的产出具有特殊的构造机制和地质意义, 因此双湖以东的才多茶卡及蓝闪石矿物的 $40\text{Ar}/39\text{Ar}$ 同位素年代学研究进一步补充和丰富了青藏高原腹地羌塘中部龙木错-双湖构造混杂岩带, 同时也为解决羌塘地区“龙木错-双湖构造混杂岩带是否向东延伸”等重大基础性地质问题, 提供了新的重自西向东从冈玛错-红脊山-绒马, 经嘎尔错到才多茶卡地区, 沿构造线方向断续分布的长达600km的含蓝闪石片岩-双湖构造混杂岩带印支期构造活动事件的产物。

关键词: [蓝闪石](#) [蓝闪石片岩](#)  [\$40\text{Ar}/39\text{Ar}\$ 同位素测年](#) [羌塘中部](#) [西藏北部](#)

40Ar/39Ar isotopic dating of the glaucophane of the blueschist and its geological significance, Caiduo Caka, central Qiangtang area, northern Tibet, China [Download Fulltext](#)

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Abstract:

The paper reports the new discovery of the late Triassic blueschists and glaucophanes and igneous rocks in the Caiduo Caka, Shuanghu area, central Qiangtang, northern Tibet, China. Based on the field survey and tectonic mélanges geological section in the Caiduo Caka, Shuanghu region, we found that the middle-high pressure blueschists (glaucophanes-bearing blueschists) were developed in the grey-green metamorphic basic volcanic rocks of the sixth bed of this section. The petrology of the blueschists, and the mineralogy and petrochemistry have been in detail researched. The results of  $40\text{Ar}/39\text{Ar}$  isotopic dating of the glaucophanes in the blueschists show that plateau age is  $209\pm 4\text{Ma}$ , and isochronal age is  $216\pm 4\text{Ma}$ . The plateau age and glaucophanes are nearly the same, belonging to Norian stage of the late Triassic. The ages are in high pressure metamorphic rocks geological data of the Gangmacuo-Hongjishan-Shuanghu blueschists. Because of the particular tectonic settings and geological significance of glaucophanes and blueschists, the discovery of the Caiduo Caka blueschists in eastern Shuanghu area and the  $40\text{Ar}/39\text{Ar}$  isotopic dating provided new important data to the Shuanghu tectonic mélanges composition and the glaucophanes isotopic dating prove the key geological problem about the “eastward extension of the Longmucuo-Shuanghu tectonic zone in the Qiangtang”. It seems possible that the middle-high pressure blueschist metamorphic rocks zone that extends over 600km from Gangmacuo-Hongjishan-Rongma-Gaeruo, sequentially eastward to Caiduo Caka in central Tibet, being bound up with late Triassic deep subduction orogenesis of the Longmucuo-Shuanghu tectonic mélanges.

Keywords: [glaucophane](#) [blueschist](#)  [\$40\text{Ar}/39\text{Ar}\$  isotopic dating](#) [central Qiangtang](#) [northern Tibet](#)