

邵济安,李永飞,唐克东. 2013. 张广才岭造山过程的重构及其大地构造意义. 岩石学报, 29(9): 2959-2970

张广才岭造山过程的重构及其大地构造意义

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基金项目: 本文受中国地质调查局项目(1212011085473); 国家自然科学基金项目(41172196)联合资助.

摘要:

前人的研究确认了“黑龙江群”是一套包括蓝片岩在内的构造混杂岩,同时发现张广才岭的下地壳内存在有俯冲的洋壳板片. 本文拟通过对张广才岭的地层-建造、岩浆作用以及变形-变质作用的研究,反演与俯冲事件相关的造山过程. 从东到西横穿造山带的地质调查揭示:沉积岩相与厚度、火山岩的组合和花岗岩系列、变质程度及变形强度的时空分布明显地受到俯冲-碰撞造山作用的控制. 造山带可以分成4个构造岩相带,显示了构造混杂岩带的水平增生作用和陆缘弧岩浆带的垂向增生作用. 通过年代学的初步研究,表明本区与俯冲作用有关的弧岩浆作用发生在晚三叠世末-早侏罗世初,而高压蓝片岩及中-高压的硬绿泥石石榴石片岩的变质作用与挤压剪切变形发生在早、中侏罗世,后者与此时佳木斯地块持续向北西的挤压作用有关. 通过区域构造的对比研究,显示张广才岭和北美西部中生代时期造山作用有某些共同特征.

英文摘要:

Previous researches have recognized Heilongjiang Group as a suit of tectonic mélangé including blue schists and discovered subducting oceanic slabs under the lower crust of Zhangguangcai Range. This work is aimed at restoration of the orogenic processes related with the subduction by studying the strata-formation, magmatism, and deformation-metamorphism of Zhangguangcai Range. A geological investigation across the orogenic belt from east to west reveals that the temporal and spatial distributions of the sedimentary facies and strata thickness, volcanic rock combination and granite series, and metamorphic degree and deformation strength are controlled by subduction-collision orogeny. The orogenic belt can be divided into four sub-belts among which two are horizontally accreted tectonic mélangé belts and the other two vertically accreted epicontinental arc-magmatic belts. A preliminary chronological study indicates that the arc-magmatism related with the subduction occurred at the end of the Late Triassic and the beginning of the Jurassic, and that the metamorphism forming high-pressure blue schists and medium-high pressure chloritoid-garnet schists and compress-shear deformation appeared in the Early-Middle Jurassic. The latter processes were related with the continuous westward compression of Jiamusi terrane in the same period. A comparative research of areal structures reveals some common features of the Mesozoic orogeny in Zhangguangcai Range and that in the west of North America.

关键词: [张广才岭造山带](#) [火山-沉积作用](#) [变质-变形作用](#) [陆缘弧的岩浆作用](#) [斜向拼贴](#)

投稿时间: 2013-02-05 最后修改时间: 2013-06-01

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黔ICP备07002071号-2

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