

SGL042-P05

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Geology of the Takato-Hase district and the Ohsawa fault in the eastern Ryoke belt

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¹None

Jurassic accretionary complex and Ryoke metamorphic rocks are widely exposed in the easternmost Inner Zone of the Southwest Japan where strikes of bedding and schistosity planes are approximately N46E. The southern part of the Takato district is however an exceptional region where strikes of foliations are approximately N15E. A fault is suggested between the Takato district and its surrounding region. Hence, geological survey was carried out. The result is shown in Figure 1. The left map is of the southern part of the Takato district and the right map is of the Hase-Ichinose district located in the south of the Takato district.

Geology of the Takato district

Tomigata Granite is exposed in the western part of the surveyed region. The granitic pluton intruded into coarse-grained gneisses in northern regions and medium-grained gneisses in southern regions. Nevertheless, large blocks of low-grade metamorphic rocks which consist of biotite schists, biotite-cordierite schists and small amounts of meta-chert and calcareous rocks occur in the northern part of the pluton. The existence of a fault which is named as Ohsawa Fault (Figure 1) is suggested on the basis of the significant gap of metamorphic temperatures.

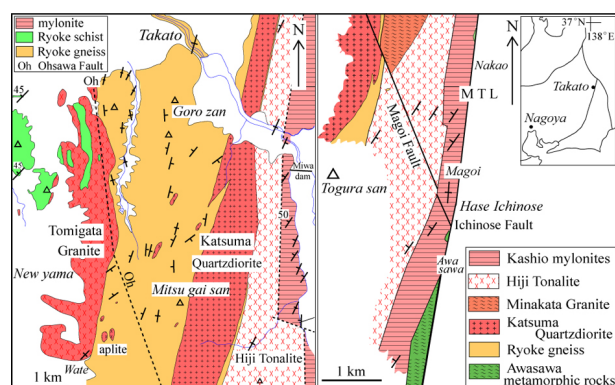
The location of the Ohsawa fault cannot be determined precisely in the Newyama area to the west of Mt. Mitsugaisan where psammitic gneisses are widely exposed. However, the existence of the Ohsawa fault is evident from the differences in strikes of foliations and grain-sizes of minerals. Quartz and plagioclase of psammitic gneisses to the west of the Ohsawa fault are small in grain sizes as compared with those of garnet-containing psammitic gneisses exposed near Mt. Mitsugaisan.

Geology of the Hase-Ichinose district

Hiji Tonalite and Katsuma Quartzdiorite are cut by the Magoi fault according to the geological maps published before. Actually, many faults are observed near the Magoi fault. Nevertheless, the strikes of foliations of Hiji Tonalite are approximately N40E in the Hase-Ichinose region. An exceptional site is found where the strikes of foliations are approximately N40W. Moreover, highly altered granitic rocks are exposed adjacent to the exceptional site. The exceptional site appears to be the Magoi fault. Altered granitic rocks which contain abundant oxychlorite are found at another locality to the southwest of the exceptional site. The trend of the Magoi fault is approximately N15W.

Summary

The Ohsawa fault was formed during the deformation of the Ryoke belt of the Takato district after the Ryoke regional metamorphism. The northern part of the fault is a boundary between Ryoke schists and gneisses. The Ryoke metamorphic rocks were intruded by Hiji Tonalite and Katsuma Quartzdiorite after the formation of the Ohsawa fault. Finally, the late Cretaceous granitic plutons were cut by the Magoi fault. The Magoi fault may be formed by the reactivation of the Ohsawa fault.



Keywords: eastern Ryoke belt, Mitsugaisan, Tomigata Granite, metamorphic rocks, Ohsawa Fault, Magoi Fault