

Geology of the Yoshii - Fujioka area in the northern Kanto Mountains

Akira Ono[1]

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The Southwest Japan came in contact with the Northeast Japan in the Kanto district at the final stage of the opening of the Japan Sea. Reverse faults and folds in the Tomioka area are considered to be formed by the early Miocene tectonics. In order to confirm the tectonic, the present writer studied the geology of the Yoshii - Fujioka area.

Geology

The Ushibuse and Obata Formations of the early Miocene Tomioka Group and Sanbagawa metamorphic rocks are distributed in the surveyed area (Figure 1). The Ushibuse Fm. is mainly composed of sandstones, conglomerates and thin mudstones. The Obata Fm. which is superposed on the Ushibuse Fm. consists of mudstones and sandstones.

The Ushibuse Fm. is rarely exposed in the east of the River Sannagawa. However, a small klippe-like block of sandstones and conglomerates of the Ushibuse Fm. was found in the east of the River Sannagawa (Fig.1).

The boundary between the Ushibuse Fm. and Sanbagawa metamorphic rocks is the Ushibuseyama Fault. Dip angles of fault planes are 20-40 degrees in NE direction. The Ushibuseyama Fault is not observed except for a klippe-like block in the east of the River Ayukawa where high-angle faults, the Kanai Fault, are observed between the Sanbagawa metamorphic rocks and the Ushibuse or Obata Fm.

The Ushibuseyama Fault may be continuous to the north of the surveyed area. Basement rocks belonging to the Inner Zone of the Southwest Japan are not found in the Yoshii - Fujioka area. Sanbagawa metamorphic rocks at certain localities may be covered by early Miocene sediments under the Kanto Plain, although there is no evidence for the sedimentation of early Miocene sediments on the Sanbagawa metamorphic rocks in the northern margins of the Kanto Mountains.

Tectonics

Many reverse faults, anticlines and synclines are observed in the Taira and Jinbo areas. In the surveyed area highly-deformed Miocene strata are found near the Kanai Fault. The complex structures are considered to be formed during the formation of the Niwaya unconformity.

Sanbagawa metamorphic rocks are widely exposed in the east of the River Ayukawa. However, the klippe of the Ushibuse Fm. suggest that the Ushibuse Fm. was widely exposed in this region. The upheaval and subsequent erosion of the Ushibuse Fm. occurred after the formation of the Ushibuseyama Fault. The upheaval was accompanied by activities of high-angle faults. The Kanai Fault (Fig.1) is a representative high-angle fault.

