
Gunung Danum Conservation area: geological and soil aspects

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The Gunung Danum Conservation area consists of (i) Sabah's oldest crystalline basement rocks, composed of peridotite, amphibolite, and basalt (ii) the Middle Miocene *mélange*, occupying the low lying areas and is composed of exotic blocks embedded in a sheared pelitic matrix. The major blocks consists of chert, sandstone, basalt, conglomerate and ultramafic rocks.

The rock association is also widely distributed in the east coast of Sabah. The relationship between the crystalline basement and the *mélange* is interpreted as a shear zone contact in which the basement rock was upthrust toward the north. Locally, the contact between the *mélange* and the basalt consists of gouge material and is believed to be a normal fault dipping to the south.

The high concentration of Ni and Cr in the stream sediments reflects the high content of the elements in the ultrabasic bedrocks of the Gunung Danum area. The Cr is probably present as clastic grains of high density chromite, whereas Ni and Zn are partly transported in solution and partly as suspended particles.

The distribution of the soil in the Gunung Danum and the neighbouring areas can be classified into three types, namely: the Bidu-Bidu Association, the Mentapok Association and the Bang Association. The Bang Association of mudstone and sandstone origin occupies the low lying areas, while in the Gunung Danum area,

an ultramafic stock is classified as the Bidu-Bidu Association. The soil type in between is the Mentapok Association of which the parent materials are basic and intermediate igneous rocks.

Extensive recent muddy alluvium can be traced along the Sungai Danum and Sungai Sabran, especially in the rainy seasons.