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The Gonam complex is exposed in the westernmost part of the Gyeonggi Massif, which is recently thought to be related with Triassic collision of China. This complex consists of various lithologies such as quartz schist, mica schist, quartzite, marble, leucocratic granite, mafic dyke and alkali granite. The Gonam complex can be divided into three units from south to north. The first is dominated by alternation of quartz schist and mica schist, which are intruded by leucocratic granites and mafic dykes. The second unit is highly sheared and folded quartzite. The last unit is composed of schists and marble intruded by acidic dykes, mafic dykes and foliated syenite.

The deformation of the Gonam complex is characterized by one ductile shearing, two generations of folding, and four generations of faulting. The most prominent geological structures developed in the Gonam Complex are ductile structures, such as mylonitic foliations, mineral stretching lineations, sheath folds and oblique folds. At most outcrops the Gonam Complex was strongly sheared and intruded by amphibolitic dykes and leucocratic granites, which are also sheared. Widely developed mylonite indicates the ductile shearing occurred in high temperature metamorphic condition.

SHRIMP zircon ages of detrital zircons obtained from schist and quartzite range from 3313 to 1819 Ma indicating the Gonam Complex deposited after Paleoproterozoic. Intrusion ages of foliated leucocratic granite, mafic dyke and foliated syenite are 821 Ma, 812 Ma and 751 Ma, respectively. And massive mafic dyke, syenite and two-mica granite (232~228 Ma) are interpreted as post-collisional igneous activity. These events are similar to those of Qinling-Dabie Belt and suggest that the Gyeonggi Massif is probably correlated to the Qinling-Dabie Belt.