

**Schweickert, R. A.; and Merguerian, Charles, 1980, Augen gneiss in the Shoo Fly Complex, Tuolumne County, California - a pre-Middle Jurassic plutonic episode.**

An ancient, deformed plutonic suite consisting of granite, granodiorite, and diorite-gabbro occupies a belt 10 km wide and 50 to 75 km long near the western edge of the Sierra Nevada batholith (SNB) in the Shoo Fly Complex between latitude 37°45'N and 38°30'N. Elongate xenoliths of the Shoo Fly, with their long dimensions parallel to the flattening foliation ( $S_1$ ), are clearly crosscut by some of the granitoid bodies, while others are concordant and sheetlike. The granitoids, now amphibolite-grade augen gneisses, are isoclinally folded and mylonitized with major penetrative deformation ( $D_2$ ) predating  $D_3$  mylonites that developed along the Calaveras-Shoo Fly thrust. The augen gneisses have locally been traced eastward into relatively undeformed protoliths that are in turn cut by the SNB.

Absolute ages of the gneisses are not known at the present; they may be of several ages. However the protolith of the augen gneisses was intruded after an early stage of deformation ( $D_1$ ) in the Shoo Fly. The gneisses predate the Calveras Shoo Fly thrust, and both are crenulated by a pre-mid Jurassic east-plunging, E-W trending fold system ( $F_4$ ), and intruded by Late Jurassic mafic dikes. Isotropic studies of the gneisses are in progress. Between latitude 37°45' and 38°30'N, the west margin of the Late Jurassic-Late Cretaceous SNB is essentially undefined at present.

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