

continent, prominent volcanic activity was prevalent, during Upper Jurassic to Oligocene.

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ORBICULAR GRANITE FROM DHAULADHAR RANGE, NORTH OF DHARAMSALA, HIMACHAL PRADESH, INDIA

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During the course of investigations of the granitic rocks of the Dhauladhar Range north of Dharamsala ($32^{\circ}13'30''$: $76^{\circ}20'$), the author came across granite showing well developed orbicular structures (Fig. 1) in the Chorana nala cutting. Dhauladhar Granite occurs as an intrusive body into the Chandpur phyllites, considered to be of Precambrian age. The westward continuation of the Dhauladhar granite in the Dalhousie area has been proved beyond doubt to be of igneous origin by Bhatia (1975). According to Bhatia and Kanwar (1971), the age of the intrusion of this granite body is Tertiary since it cuts across the Tertiary structures. Incidentally, it happens to be the only occurrence of orbicular bearing granite recorded in India so far and will be an addition to the localities of orbicular bearing rocks tabulated by Leveson (1966).

The orbicular structures have already been reported from granites, migmatites, diorites, schists, gabbro and a number of other plutonic igneous rocks, but granite is the most common rock bearing this structure.

The orbicules present are spheroidal or ellipsoidal in shape and range from 5 to 20 cm in diameter. The cores are generally made up of either fragments of xenoliths or autoliths, but orbicules with core similar to country rock are also present. The orbicules consist of shells which range in number from one to six. The spacing is generally regular but orbicules with irregular spacing are also met with. Individual



Figure 1. Photograph of the Dhauladhar Granite showing well developed orbicules.

shell has fairly constant thickness and the passage from one shell to another is always sharp. Cores and shells are polymineralic, but there is no difference as such in the mineralogy but for the difference in proportions of each mineral. The mineral constituents of the orbicules and the matrix are the same. These include quartz, alkali-felspar, plagioclase (An_{10-25}), biotite and muscovite.

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