

thinly bedded tuffs, which are particularly noticeable for some distance along Windy Arm, where they appear as fine-grained, dark argillites. All these rocks appear to be pyroclastics, and thin sections of the so-called argillites, examined under the microscope, are seen to be tuffs. The only fossils found here are imprints of some valves of young specimens of a species of *Inoceramus* which were examined by Dr. Whiteaves, and which he considers the same as the species found on Mt. Goat, and probably Lower Cretaceous.

These Tutshi rocks are frequently cut by porphyry dikes, generally fine-grained and greenish in colour; in a few places light-coloured pink porphyry dikes were observed to cut both the Windy Arm and Tutshi rocks. These dikes, which probably belong to some period of volcanic activity in Tertiary times, are in all cases too narrow to be shown on the accompanying map.

From the coal seams at the Tantalus mine, which are of the same horizon as those south-west of Whitehorse, and to the east of Pugh peak, as described above, some fossil plants have been examined by Dr. Penhallow, who says:— "All the material appears to be the same as the specimen of *Thyrsopteris elliptica*, Fontaine, as figured by Ward in the 'Status of the Mesozoic Floras of the United States,' vol. XLVIII, pl. LXXI, figs. 12 and 13; and to this the present specimens are provisionally referred. It is to be observed, however, that there seems to be some question as to the correctness of Ward's reference, since the specimen cited is quite distinct from the original type of *Thyrsopteris elliptica* as described by Fontaine (in 'Potomac Flora, vol. XV, p. 133, pl. XXIV, figs. 3, 3a'), and it is quite possible that further and more complete specimens may show this to be an entirely new species. A somewhat related flora was described by me in 1898 as obtained by Mr. J. B. Tyrrell from the Nordenskiöld river. All the specimens shown, however, were specimens of *Cladoplichis*, and they indicated Cretaceous age. "The specimens from the Tantalus mine present a flora with the same facies as those from the Nordenskiöld river, and the whole conform to the flora of Kootenai age. (Lower Cretaceous,—sometimes assigned to the Jurassic-Cretaceous period, near the close of the Jurassic and at the beginning of the Cretaceous)."

This further evidence bears on the correlation of the Tutshi series as made above.

GRANITE PORPHYRY.

In a number of places intrusive dikes, and masses of granite and syenite porphyry were seen cutting all the other rocks except the Tertiary basalts, etc. The areas of these are as a rule too small to show on the accompanying map, being generally dikes less than five hundred feet wide, but occasionally wider.

One of the most noticeable was a typical syenite porphyry, cutting Red ridge about one-half mile west of the signal, and continuing through Mt. Perkin to the eastern edge of Pugh peak, about one-half mile from the summit, being from nearly a half mile wide on Red ridge to about eight hundred feet wide east of Pugh peak.

Just west of Mt. Double summit is a similar dike about two hundred feet wide. This, however, on account of scarcity of outcrops of any kind, could only be traced a short distance.