

Upper Devonian and Lower Carboniferous miospores, western District of Mackenzie and Yukon Territory, Canada

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Abstract

The Imperial Formation, a Late Devonian alternating sandstone and shale sequence, occurs over large areas of the District of Mackenzie and Yukon Territory. The Tuttle Formation, a pebbly conglomeratic sandstone and shale unit of Late Devonian to Early Carboniferous age, occurs in the Richardson Mountains of the Yukon Territory. Age-diagnostic faunas are rare, but the common and well-preserved miospores are shown to be useful in correlation within the formations. Sections at Imperial River, Powell Creek, Mountain River, Arctic Red River, Lower Trail River and the Trail River were studied. Seven miospore biozones are recognized, of which three also contain zonally significant conodonts. Two unconformities are recognized by abrupt changes in miospore assemblages; one occurs within the upper Frasnian between the Frasnian and Famennian and the other between the middle and uppermost Famennian.

Three new genera are described: *Decorisporites*, *Implicatisporites* and *Telisporites*; the genus *Cyrtospora* is emended; 14 new species are described: *Decorisporites cistifer*, *Telisporites curtus*, *T. elongatus*, *Raistrickia pansa*, *Verruciretusispora infans*, *Dictyotriletes imperialensis*, *Archaeozonotriletes diademis*, *Knoxisporites? anfractuusus*, *Grandispora mystica*, *G. riparia*, *G. spuma*, *G. sola*, *Implicatisporites nexus* and *Vallatisporites preanthoideus*; and six new combinations are made: *Deltoidiospora confertus*, *D. tortilis*, *D. trivialis*, *Eresina paucispina*, *Knoxisporites polymorphus* and *Vallatisporites anthoideus*. One new variety, *Cyrtospora cristifera* var. *triplexa*, is proposed and a new combination is made, *Cyrtospora cristifera* var. *biloba*.