

JURASSIC AND LOWER CRETACEOUS
MICROFAUNAS OF WESTERN CANADA
AND THEIR BIOSTRATIGRAPHICAL POTENTIAL

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Distinctive microfossil assemblages characterize many Jurassic to Lower Cretaceous sequences of western Canada, and most biostratigraphic zones can be traced over large areas. These small fossils allow more refined correlation, in many instances, than the relatively rare and widely scattered macrofossils provide.

Seven assemblages have been recognized in the Bajocian to Oxfordian subsurface sequences of southern Saskatchewan. Most of them are present also in surface sections with ammonites in north-central Montana and the southern Rocky Mountains, permitting calibration of these microfossil zones with the chronostratigraphic standard. The microfaunas, dominated by calcareous Foraminifera and some ostracodes, belong to an endemic 'Western Interior' faunal province.

Three assemblages, mainly composed of agglutinated Foraminifera, have been traced throughout eastern British Columbia and adjoining Alberta in sequences interpreted to be mostly post-Oxfordian in age. The Foraminifera are part of a worldwide 'Boreal' faunal province and are found in northern Alaska, the northern Richardson Mountains, the Canadian Arctic Islands, and northern Siberia. A fourth assemblage exhibiting some central European affinities, is present in lower Oxfordian strata of the Fernie Basin.

The marine Lower Cretaceous microfaunas of the Richardson Mountains, the only major ones of this age in western Canada, are shown for comparison.