Conodont biostratigraphy of the Windsor Group (Lower Carboniferous), Les Iles de la Madeleine, Quebec

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The stratigraphy of the Windsor Group on les Iles de la Madeleine, Quebec, is complicated by folding, faulting, and volcanism, as well as salt and gypsum flowage. The lack of a diagnostic subzonal macrofauna in most carbonates and the presence of only one relatively continuous exposure of the Windsor Group also hinders biostratigraphic correlations.

Four successive conodont faunas have been recognized by von Bitter and Plint-Gerberl in the Codroy Group of southwestern Newfoundland (=Windsor Group of the Maritime Provinces and Quebec). These are correlated as follows: the *Diplograthodus*, *Taphrognathus*, and *Cavusgnathus* Faunas with the A, lower B, and upper B subzones, respectively, and the *Gnathodus* Faunas with the undivided C, D, and E subzones (Upper Windsor Group). This faunal succession provides a useful tool in Windsor Group subzone identification and correlation.

Ninety-two samples collected from Windsor Group strata of les Iles de la Madeleine have been processed for conodonts. The conodont fauna of the Islands is dominated by *Cavusgnathus windsorensis* Globensky, a species suspected of being tolerant to conditions of high to variable salinity. This species is probably more ecologically sensitive, than it is biostratigraphically. To date, the A subzone has not been recognized either macro or microfaunally in the Islands. The *Taphrognathus* Fauna has been recognized from Ile Alright and correlates with the lower B subzone of the Lower Windsor Group. *Hindeodus cristulus*, *Spathognathodus scitulus*, *Ozarkodina laevipostica*, and *Apatognathus sp.* have been identified in samples from Ile de l'Entree and correlate with the undifferentiated Upper Windsor subzones.

It appears likely that conodonts will be useful for subzone determination and correlation within les Iles de la Madeleine using the conodont faunal succession recognized and defined in southwestern Newfoundland by von Bitter and Plint-Geberl.