

ORDOVICIAN PATCH REEFS IN THE ST.-HONORE AREA OF QUEBEC*Ron Pickerill**Department of Geology, University of New Brunswick
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Small patch reefs occur near the top of the exposed sequence of Middle Ordovician Trenton limestone in the Chicoutimi area of Quebec. Despite their small size, the reefs comprise diverse assem-

blages of organisms, including representatives of all major groups presently recorded from other Middle Ordovician reefs. Reef growth started and continued in a fully marine, open shelf environment and, other than a slight overall deepening, perhaps with increased water turbidity in the latest stages of development, environmental factors such as energy levels were essentially constant.

However, substrates on which the reefs developed were variable, ranging from loose skeletal lenses to firm or hardened bioturbated wackestones. Earliest stages of reef growth reflect this variability. Loose or less firm substrates were colonised by clusters and thickets of ramose and encrusting trepostome bryozoans with abundant pelmatozoan debris, which together stabilised the substrate and provided the basis for further reef development. Examples of large isolate receptaculitid colonies surrounded by abundant

solitary corals and gastropods demonstrate their potential to provide the basis for reef development, and the numerous fragmentary colonies present within bryozoan thickets and associated early reef sediments show they were probably present in the initial stages of most reefs. The resultant firmer, slightly elevated substrates provided excellent sites for attachment and growth of stromatoporoids and colonial corals, which then dominated the later stages of reef growth. On firmer and hardened areas of the substrate, stromatoporoids and corals colonised the surface directly and the earlier stages of reef initiation are absent. The compositions and developmental stages of these late Trenton reefs closely match those seen in broadly contemporaneous reefs elsewhere and are essentially the same as those of many much larger Silurian and Devonian reefs throughout the world.