

## Cambrian medusoids from the Saint John Group, southern New Brunswick

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Since the pioneering work by G. F. Matthew, Cambrian strata of Saint John and adjacent areas, southern New Brunswick, have attracted palaeontological research for almost a century. The newly constructed McKay Highway has provided new and important exposures of Cambrian strata within the City of Saint John. One such exposure, located northwest of Courtenay Bay in east Saint John, has yielded over 100 specimens of moderately well-preserved medusoids (jellyfish - *sensu lato*) on the upper surface of a ripple marked quartz arenite.

Unfortunately, because of the deplorable and improper stratigraphic nomenclature adopted for the succession here, i.e. the acceptance of biostratigraphical units for formational subdivision, it is impossible to state with certainty the exact age of the medusoids as the only associated fossils are poorly preserved lingulid brachiopods. It is argued, however, that they most likely occur in the Agnostus Cove Formation of lower Upper Cambrian age. As Cambrian medusoids in Canada have only been previously described from the Burgess Shale, the locality represents a most unique and fortunate discovery. If instituted, it should, if possible, be given priority as a protected site.

A more serious difficulty arises with classification of the medusoids as either hydrozoan or scyphozoan. Most palaeontologists have historically and specifically attributed medusoids to one or other of these unrelated classes, but based on few and non-biological diagnostic criteria. Indeed, realistically, their differentiation is largely dependent on basic biological differentiating parameters e.g. does the coelenteron bear gonads, gastric filaments and pouches, is the medusoid craspedote (possesses a velum), are subumbrella furrows present? etc. Unfortunately, fossil medusoids are only known from one side (umbrella or subumbrella), exhibit varying degrees of decomposition which influences their shape and structure, frequently exhibit superimposition of umbrella and subumbrella features, are sometimes akin to basal discoidal attachments in known benthonic cnidarians and often do not preserve 'biological' differentiating criteria. Although the Saint John medusoids do not preserve direct evidence of a scyphozoan or hydrozoan affinity, their size, preservation and radial canals in multiples of 12 or 16 suggest affinities to the scyphozoans. The research is by no means complete but it is likely that they represent a new species.