Early Caradoc (Late Ordovician) graptolites from the Elmtree Formation, Tetagouche Group, northern New Brunswick

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A sample of black shale from a roadcut near Patapat, east of Mitchell Settlement, New Brunswick, has yielded an age-diagnostic graptolite fauna of earliest Caradoc age. These shales had been previously mapped as part of the Early Devonian Dalhousie Group, but are now assigned to the Elmtree Formation of the Tetagouche Group. The fauna consists of *Nemagraptus gracilis* (Hall), *Corynoides calicularis* Nicholson, *Climacograptus bicornis* (Hall), *Pseudoclimacograptus modestus* (Ruedemann), *Normalograptus brevis* Elles and Wood and *Lasiograptus* cf. *L. costatus* Lapworth. These taxa overlap in age only in the upper part of the *gracilis* Zone (or possibly the lowest *multidens* Zone).

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This information provides a significant refinement in the age of the Elmtree Formation, which had previously only been dated as Middle Ordovician to Early Silurian based on more poorly preserved graptolites. Furthermore, it corroborates the regional stratigraphic evidence for an early Caradoc age for this part of the Tetagouche Group. Although most of these taxa are widespread in geographic distribution, *Lasiograptus costatus* has only previously been reported from southern Scotland, Wales and central Newfoundland, strongly indicating an Iapetus affinity for this fauna. The collection, however, does not permit us to suggest which side of the Iapetus this unit may represent, although further collecting in this and related units may yield more paleogeographically useful information.