Significance of early Devonian animal fossils from the Campbellton Formation, New Brunswick

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The early Devonian Campbellton-Atholville fossil locality, known for its fauna of ostracoderms, arthrodires, acanthodians, and chondrichthyans, has produced interesting specimens since it was discovered in 1881. New specimens suggest the locality still has much to offer. Recently discovered pterygotid eurypterids are tentatively identified as *Pterygotus anglicus* Agassiz. Although a significant collection of pterygotids was sent to the Natural History Museum, London in 1892, they have received little attention. Only a few fragments of *Pterygotus* from the Geological Survey of Canada collection have been described. In 1912 they were described as a new species, *P. atlanticus* and it was suggested it might be a small form of *P. anglicus*. Recently discovered specimens, including one relatively complete individual, indicate they might have been correct and may provide evidence of *Pterygotus anglicus* in North America.

Over the past several decades discoveries of early-middle Devonian chondrichthyans from Gondwanan or neighbouring terranes have lead to suggestions of a Gondwanan origin for sharks. However, tooth fossils of *Doliodus problematicus* described in 1892 from Campbellton presented a problem. Recent descriptions of teeth and a newly described articulated specimen of *D. problematicus* from the Campbellton Formation confirm the species as a shark, not an acanthodian as sometimes suggested. A second presumed shark, *Protodus jexi*, described in 1892, occurs in the same beds. Fin-spines from the same locality, identified as *Climatius latispinosus*, have been problematic since they were first described. Once considered as acanthodian, they are quite possibly chondrichthyan and attributed to *Doliodus problematicus*, the first shark known to have possessed paired fin-spines. If this interpretation is correct early sharks were possibly more widespread than previously thought, as early Devonian fin-spines from other localities assigned to acanthodians might also belong to sharks.