
**Trilobites on the block: a Middle Cambrian mass-kill
in the Penguin Cove Formation, Northern Brook
Anticline, western Newfoundland**

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A loose block of Penguin Cove Formation in the Northern Brook Anticline of western Newfoundland is host to an unusual layer crowded with abundant complete specimens of the Middle Cambrian corynexochid trilobite *Kootenia*. At least forty individuals occur in a 32 × 19 cm area on the block; most of these range in length from 3.6 to 4.2 cm. The trilobites are deformed, however, in a textbook example of coaxial (irrotational) strain, *i.e.*, pure shear. The principal strain Y'/X' ratio is between 0.67 and 0.68.

Because trilobite remains typically are preserved as incomplete, disarticulated molts or fragments, it is probable that these complete, articulated trilobites represent a death assemblage. This mass mortality could have been caused by oxygen deprivation, possibly caused by a catastrophic release of CO₂ from the seafloor. Mass mortality following mating may be another interpretation, but this is regarded as unlikely, because a second block from the same locality contains larger cranidia and pygidia, indicating that, normally, the *Kootenia* had a longer lifespan.

Most of the *Kootenia* on the first block are of similar size. This indicates that they probably were of about the same age. This suggests that—like some modern day shrimp—certain trilobites may have lived in “schools”.