

## Early Carboniferous chondrichthyan *Thrinacodus* from Ireland, and a reconstruction of jaw apparatus

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Specimens of the microscopic teeth of the chondrichthyan genus *Thrinacodus* are described from Mississippian (Tournaisian) rocks of Ireland. They are from calcareous mudstones or crinoidal limestones whose palaeoenvironments are interpreted as ranging from near shore, shallow water through moderately shallow high energy carbonate shelf, to relatively deep off-shore. The richest fauna was recovered from the high-energy carbonate shelf, containing both asymmetrical and symmetrical teeth raising the possibility that they may have been derived from a single species of shark. The teeth are assigned to *Thrinacodus incurvus* (Newberry and Worthen, 1866), which is suggested to be a senior synonym of *Thrinacodus ferox* Turner, 1982. Presently the genus is known only from isolated teeth. The asymmetrical and symmetrical teeth are described as two morphotypes, *ferox* morphotype and *nanus* morphotype. Within the morphotypes, morphological variation occurs, especially within the *ferox* morphotype, allowing a number of possible reconstructions of the dentition of *Thrinacodus incurvus* to be presented as a basis for future debate.

**Key words:** Fish microfossils, Chondrichthyes, *Thrinacodus*, jaw reconstructions, Carboniferous, Mississippian, Ivorian, Ireland.

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