

S27B - SHELL MICROSTRUCTURE OF THE EARLY CLAM *POJETAIA* AND THE INDEPENDENT ORIGIN OF NACRE WITHIN THE MOLLUSCA

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Pojetaia and *Fordilla* are the oldest bivalve molluscs, occurring in roughly co-eval rocks from the Tommotian, and are the only undisputed, well-known clams from the Cambrian. New specimens and unpublished photographs reveal that *Pojetaia* and *Fordilla* had a laminar inner shell microstructure of foliated aragonite, a newly discovered texture found in many modern monoplacophorans. A similar shell microstructure, a probable precursor to foliated aragonite, is seen in *Anabarella* and *Watsonella*, providing support for the hypothesis that these tall, laterally compressed molluscs are the ancestors of bivalves. Foliated aragonite shares many similarities with nacre, and it was probably the precursor to nacre in bivalves. No cases of undisputed nacre occur in the Cambrian, in spite of much shell microstructure data from molluscs of this time period. Thus, although nacre is considered by many to be homologous among molluscs, we conclude that it originated independently in the molluscs that have it: gastropods, bivalves, cephalopods, and monoplacophorans. This independent origin of nacre appears to have taken place during, or just prior to, the Great Ordovician Biodiversification Event and represents a significant step in the arms race between predators and molluscan prey.

S27A - A NEW TRIASSIC BRACHYOPOID AMPHIBIAN (TEMNOSPONDYLI: BRACHYOPOIDEA; BRACHYOPIDAE) FROM UPPER CENTRAL THAILAND

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A fossil brachyopoid amphibian has been obtained from a stream bed in Nongphai District Petchabun Province, upper Central Thailand. It comes from the Nam Pong Formation, Rhaetian, upper Triassic. The fossil skull is embedded in a sandstone concretion and comprises a nearly complete set of cranium, armed jaws with pedicellated teeth, hyomandibular bones, and some cervical vertebrae, totalling 27.0 cm in length and 31.5 cm in width. The fossil is closely similar to the genera *Batrachosuchus* and *Sinobrachyops* in terms of the unarmoured cranium, forward eye and large fanged teeth. The latter indicate a ferocious fish eater habit. This fossil amphibian is potentially a new genus and certainly a new species and is the first brachyopoid recorded from the Southeast Asia.