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The tommotiid *Camenella reticulosa* from the early Cambrian of South Australia: Morphology, scleritome reconstruction, and phylogeny

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The tommotiid *Camenella reticulosa* is redescribed based on new collections of well preserved sclerites from the Arrowie Basin (Flinders Ranges), South Australia, revealing new information concerning morphology and microstructure. The acutely pyramidal mitral sclerite is described for the first time and the sellate sclerite is shown to be coiled through up to 1.5 whorls. Based on *Camenella*, a model is proposed by which tommotiid sclerites are composed of alternating dense phosphatic, and presumably originally organic–rich, laminae. *Camenella* is morphologically most similar to *Lapworthella, Kennardia*, and *Dailyatia*, and these taxa are interpreted to represent a monophyletic clade, here termed the "camenellans", within the Tommotiida. Potential reconstructions of the scleritome of *Camenella* are discussed and although a tubular scleritome construction was recently demonstrated for the tommotiids *Eccentrotheca* and *Paterimitra*, a bilaterally symmetrical scleritome model with the sclerites arranged symmetrically on the dorsal surface of a vagrant animal can not be ruled out.

Key words: Tommotiida, *Camenella*, scleritome, phylogeny, Atdabanian, Botoman, Cambrian, South Australia.

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