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Alleged cnidarian *Sphenothallus* in the Late Ordovician of Baltica, its mineral composition and microstructure

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Sphenothallus is a problematic fossil with possible cnidarian affinities. Two species of *Sphenothallus,* *S.* aff. *longissimus* and *S. kukersianus*, occur in the normal marine sediments of the Late Ordovician of Estonia. *S. longissimus* is more common than *S. kukersianus* and has a range from early Sandbian to middle Katian. *Sphenothallus* had a wide paleo-biogeographic distribution in the Late Ordovician. The tubes of *Sphenothallus* are composed of lamellae with a homo-geneous microstructure. The homogeneous microstructure could represent a diagenetic fabric, based on the similarity to diagenetic structures in *Torellella* (Cnidaria?, Hyolithelminthes). Tubes of *Sphenothallus* have an apatitic composition, but one tube contains lamellae of diagenetic calcite within the apatitic structure. *Sphenothallus* presumably had origi-nally biomineralized apatitic tubes. Different lattice parameters of the apatite indicate that biomineralization systems of phosphatic cnidarians *Sphenothallus* and *Conularia* sp. may have been different.

Key words: Cnidaria?, *Sphenothallus*, apatite, microstructure, Ordovician, Sandbian, Katian, Estonia.

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