

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

Olev Vinn and Kalle Kirsimäe

*Acta Palaeontologica Polonica* 60 (4), 2015: 1001-1008 doi:<http://dx.doi.org/10.4202/app.00049.2013>

*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 homogeneous 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 originally 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.

Olev Vinn [[olev.vinn@ut.ee](mailto:olev.vinn@ut.ee)] and Kalle Kirsimäe [[kalle.kirsimae@ut.ee](mailto:kalle.kirsimae@ut.ee)], Department of Geology, University of Tartu, Ravila 14A, 50411 Tartu, Estonia.

This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see [creativecommons.org](http://creativecommons.org)), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

