

## SHORT COMMUNICATION

## A new chitinozoan species from the Middle Ordovician of Estonia

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**Abstract.** A new species *Baltochitina delicata* is formally defined. This rare species has been identified in the Aseri Regional Stage (Darriwilian) in North Estonian sections. The genus *Baltochitina* was known so far only by a single species *B. nolvaki*, which occurs in the Lasnamägi Regional Stage (Darriwilian) of Estonia. The restricted range of both species points to their stratigraphical utility and suggests that *Baltochitina* belongs to endemic Baltica fauna.

**Key words:** chitinozoans, Middle Ordovician, Darriwilian, Baltica.

## SYSTEMATIC DESCRIPTION

*Incertae sedis* group CHITINOZOA Eisenack, 1931  
Order PROSOMATIFERA Eisenack, 1972  
Family CONOCHITINIDAE Eisenack, 1931, emend.  
Paris, 1981  
Subfamily TANUCHITININAE Paris, 1981  
Genus *Baltochitina* Paris & Grahn, 1999

*Baltochitina delicata* sp. nov.  
Figure 1

2010 *Baltochitina* sp. n.; Nõlvak 2010, appendix 6, sheet 2 (log).

2010 *Baltochitina* sp. n. 1; Tammekänd, Hints & Nõlvak 2010, fig. 5 (log).

*Derivation of name.* Latin ‘delicatus’, meaning delightful, tender, referring to the overall shape and ornamentation of the vesicle.

*Holotype.* GIT 644-1, Fig. 1A, A1–A3 (sample M-6371, coll. 1975), 0.58–0.65 m below the Aseri/Lasnamägi stage boundary, Ojaküla Member, Kandle Formation, Aseri Regional Stage, Kunda-Aru Quarry, North Estonia.

*Type locality and horizon.* Kunda-Aru Quarry, North Estonia, Ojaküla Member (Kandle Formation), upper part of the Aseri Stage, Darriwilian.

*Dimensions* (µm). *Holotype*: total length – L: 115; maximal chamber diameter – Dp: 90; diameter of oral part near carina – Dc: 45; length of carina – Lcar: 8.

18 specimens: L: 90–150, mean 119; Dp: 70–90, mean 80; Dc: 40–50, mean 45; Lcar: 6–8; L/Dp: approx. 3/2.

*Diagnosis.* Chamber conical, neck absent, wall surface smooth, collarette perforated, sharp margin bearing

reticulated carina not perpendicular to axis of vesicle, concave base smooth.

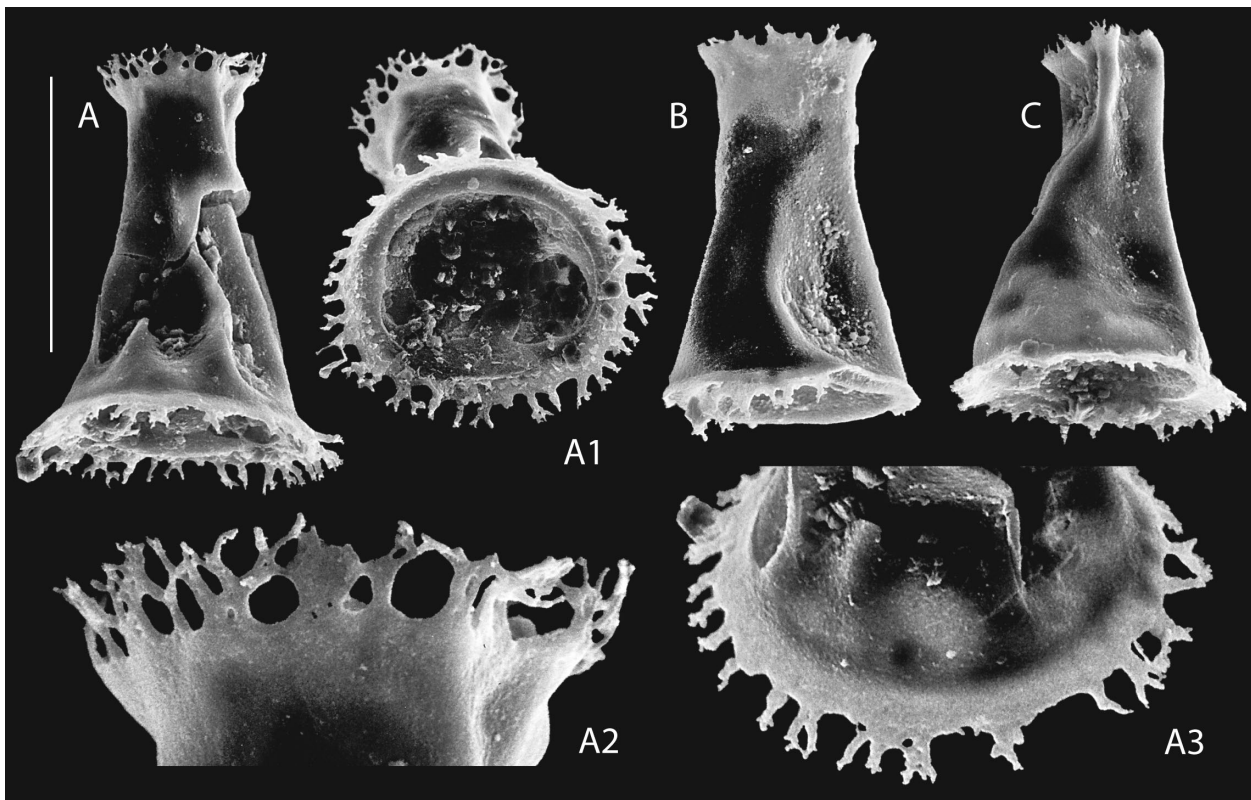
*Description.* Small conical chamber, slightly flared towards the aperture; flexure and shoulder are lacking. The maximum width is at the sharp aboral margin, carina is reticulated or lacinated. Depending on the preservation of the specimen, the flaring collarette surrounding the aperture is perforated or denticulated.

*Discussion.* *Baltochitina delicata* sp. nov. is easily differentiated from *Baltochitina nolvaki* Paris & Grahn, 1999 (in Paris et al. 1999 and illustrated in Nõlvak & Grahn 1993, pl. V, figs A,B as *Sagenachitina* sp.) mainly by its dimensions, being about four times shorter. The stratigraphical range of *B. nolvaki* is higher.

Specific features, such as perforated collarette, and reticulated carina the spines or hairs of which may be branched, are very fragile structures, partly or totally broken, even if the vesicle itself is three-dimensionally preserved (Fig. 1B). Sometimes only small spines near the aperture are preserved (Fig. 1C).

Having a short vertical range in the northern and western Estonian sections, this species, although rare, is stratigraphically useful, as is *B. nolvaki* in the Lasnamägi Stage (found in Lasnamägi Quarry and Rapla, Äiamaa, Väraska and Kandava cores).

*Occurrence.* Seventy-two specimens of *Baltochitina delicata* are found in the beds of the Aseri Stage in North and West Estonia: Kunda-Aru Quarry (in two samples M-6371, M-6370), in a 0.22 m interval in the upper part of the Aseri Stage – 4 specimens; Uuga Cliff (sample OM6-1), Aseri Stage – 63 specimens; Saaremaa Island: Viki core, at 357.70–357.88 m (sample OM8-9) – 3 specimens, and at 357.37–357.50 m (sample OM8-10) – 2 specimens. The last sample is interpreted lithologically as the basal layer of the Lasnamägi Stage (Pöldvere & Nestor 2010, p. 8).



**Fig. 1.** Selected specimens of *Baltochitina delicata* sp. nov. Nõlvak from Kunda-Aru Quarry, Aseri Stage, sample 0.58–0.65 m below its upper boundary. The scale bar corresponds to 100  $\mu$ m. **A**, Holotype, GIT 644-1, details A1–A3. **B**, Specimen with partly broken collarette and carina, GIT 644-2. **C**, Specimen with denticulated aperture, GIT 644-3.

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## Uus kitiinikuliik Eesti Kesk-Ordoviitsiumist

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On kirjeldatud uut kitiinikuliiki, mille levik piirdub Kesk-Ordoviitsiumi seniuuritud läbilõigetes põhiliselt Aseri lademega Põhja- ja Lääne-Eestis. Suhtelisele haruldusele vaatamata on mõlemal *Baltochitina* liigil, *B. delicata* Aseri ja *B. novaki* Lasnamäe lademes, oluline korrelatiivne väärtus.

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