

BACATISPHAERA

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Genus BACATISPHAERA gen. nov.

Type species. *Bacatisphaera baokangensis* sp. nov.

Derivation of name. Latin, *bacatus*, set with pearls; with reference to the surface ornamentation of this spheroidal microfossil.

Diagnosis. Spheroidal vesicles 350–450 μm in diameter, characterized by pimple-like processes loosely and regularly arranged on the surface of the vesicle; processes are hollow (?), domed or vaulted in shape, and wider than long.

Remarks. The distinctive surface sculpture of this taxon differentiates it from previously described Proterozoic acritarchs. The loosely and regularly arranged, domed or vaulted processes are markedly different from the relatively long, conical processes seen in *Meghystrichosphaeridium* Zhang, Yin, Xiao and Knoll, 1998 *non* Chen and Liu, 1986. The two species of the genus *Eotylotopalla* (*E. dactylos* Zhang, Yin, Xiao and Knoll, 1998 and *E. delicata* Yin, 1987, both of which are from the upper Doushantuo cherts of Hubei Province), differ in their moderate number of regularly spaced cylindrical or bulbous processes and very small size (commonly $< 50 \mu\text{m}$; Zhang *et al.* 1998). Spheroidal vesicles of *Papillomembrana compta* Spjeldnaes emend. Vidal, 1990, emend. Zhang, Yin, Xiao and Knoll, 1998 (Zhang *et al.* 1998, figs 10.9–11), which are also known from the upper Doushantuo cherts of Hubei Province, differ from this new genus in having flexible, cylindrical processes, which are 30–50 per cent as long as the vesicle is wide. Zhang *et al.* (1998) reported *Pustulisphaera* from Doushantuo phosphorites and upper Doushantuo cherts. This taxon also bears pimple-like processes, but its vesicles are characterized by three concentric envelopes, and the processes are only distributed over the middle layer, and are in lateral contact with each other.

