

TAWUIA

Hofmann in Hofmann &
Aitken 1979

Genus *Tawuia* Hofmann, 1979

Synonymy. – □1979 *Tawuia* Hofmann, n.g. – Hofmann & Aitken, pp. 157–158. □1980 *Ellipsophysa* Zheng (gen. nov.) – Zheng, p. 60. □1980 *Pumilibaxa* Zheng (gen. nov.) – Zheng, p. 61. □1980 *Nephroformia* Zheng (gen. nov.) – Zheng, p. 62. □1985 *Glossophyton* Duan et Du (gen. nov.) – Xing et al., p. 72. □1989 *Mesonactus* gen. nov. – Fu, pp. 74, 77. □1989 *Tachymacrus* gen. nov. – Fu, pp. 74, 77. □1992 *Tawuia dalensis* Hofmann, 1979 – Zang & Walter 1992bs, pp. 312–313, Pl. 4A, D–I (see for extended synonymy). □1993 *Luonanconcha* Jian et Hu gen. nov. – Hu et al., pp. 100, 106.

Type species. – *Tawuia dalensis* Hofmann, 1979, pp. 158–160.

Discussion. – Most thick-walled, more or less tomaculate (sausage-shaped) Proterozoic microfossils can be reliably assigned to the form genus *Tawuia*. The principal difficulty in its identification lies in an apparent morphological gradation into ellipsoidal and circular forms. Thus, while Hofmann (1985a, b, 1992) considers genera such as *Shouhsienia* and *Ellipsophysa* to be short representatives of *Tawuia*, Zhang R. et al. (1991) prefer to retain these ellipsoidal fossils as a distinct form. It is worth noting in this regard that the distortion of a spheroid under compression will often yield an ellipsoid with a length:width ratio of ca. 1.5 (Harris 1974, Text-figs. 5.C–H, 6), or considerably more if the vesicle is split (Harris 1974, p. 139). Unlike *Tawuia*, *Shouhsienia* tends to have a single terminal split, suggesting that much of its aspect ratio is taphonomically induced and that its taxonomic affiliation is with the spheroidal acritarchs, e.g., *Leiosphaeridia wimani* n. comb. (Fig. 13E–F). On the other hand,

Butterfield, Knoll, Swett 1994

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unsplit ellipsoids with a length:width ratio as small as 2.5 (Fig. 8D–E) can, on independent structural grounds, be reliably assigned to *Tawuia* (see below).

A single species of *Tawuia* is recognized by Hofmann (1985a); others may exist but they await rigorous documentation. Like *T. sinitensis* Duan, 1982, *Tawuia* in the Svanbergfjellet Formation are markedly smaller and less curved than the mean/mode of the Little Dal type material; however, the size range and habit of both these populations fall entirely within those of *T. dalensis* (Hofmann 1985a), thus leaving the putative second species without diagnostic (i.e. unique) characters. In view of the relatively small numbers of Svanbergfjellet *Tawuia* and the difficulty in assessing discrete species from the literature, only its genus-level synonymy is considered here. An extensive (to 1988) collation of Proterozoic carbonaceous megafossils is given by Hofmann (1992).

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1979 p. 157-158

part of same individual as Chuanica & Longfengshan
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