

HEMISPHAERIELLA

Porter, Meisterfeld & Knoll 2003

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HEMISPHAERIELLA new genus

Type species.—*Hemisphaeriella ornata* n. sp., by monotypy.

Diagnosis.—Roughly hemispherical VSMs covered with broad, rounded indentations (~20 to 40 μm in diameter) on side and aboral wall.

Etymology.—From the Greek, *hemisphairion*, hemisphere, with the diminutive, *-ella*; with reference to their roughly hemispherical shape.

Discussion.—That VSM tests were originally rigid (Martí Mus and Moczydłowska, 2000; Porter and Knoll, 2000) indicates that these specimens are not simply *Palaeoarcella* tests that were dented during diagenesis, but rather that the indentations were present during life. This is consistent with their regular shape, size, and arrangement, which indicate a biological, rather than taphonomic origin. It is impossible to reconcile them as unusual cross sections of other taxa, and their distinctiveness indicates that they are unlikely to be variants of other taxa. Thus, even though there are only two specimens of *Hemisphaeriella*, they are distinct enough to warrant a new genus. The two specimens are slightly different from each other in appearance but this difference likely reflects different planes of intersection: one is probably cut near the center of the test (Fig. 12.1), the other appears to be cut off center (Fig. 12.2).

This genus is similar to *Melanocyrrillium* Bloeser, 1985 in having indentations on the test, and it is similar to *Palaeoarcella* n. gen. in its hemispherical shape, but uniting *Hemisphaeriella* with one or the other would imply that one character has greater phylogenetic significance, a distinction we are unable to make. In modern testate amoebae, taxa with any of these characters are united together in the genus *Arcella*, but the tests of this genus are unusually variable: species are linked by common cytological characters and a specific test composition rather than by any shared test morphology (Meisterfeld, 2002a). In the absence of cell characters linking *Melanocyrrillium*, *Palaeoarcella*, and *Hemisphaeriella*, and because of the discrete differences between their tests, we have kept these three taxa separate.

