

Were Adam and Eve Ediacarans? - A possible sexual dimorphism in *Dickinsonia costata*

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The Precambrian Ediacara organism *Dickinsonia costata* has a bilaterally organized, elliptical body with a segmented dorsal part. The number of segments is constantly increasing during ontogeny. Former examinations revealed a diffuse distribution of the body-size in relation to the number of segments within *D. costata*. The remarkable differences between body-sizes of specimens with the

same number of segments have been attributed to an active contraction during dying so far.

Morphometric investigation revealed two distinctive morphogroups within the species *D. costata* by means of principal component analysis. Their overlap in the multidimensional space is examined by an analysis of variance and a stepwise canonical discriminant function

analysis. Both tests give evidence for a clear distinction between two different clusters. The lack of intermediate forms, the homogeneity of the population in space and time, considerations concerning growth, and the nearly 1:1 ratio between the two morphogroups give rise to the interpretation, that the two morphs represent different sexes. Hence, sexual dimorphism has already arisen in the Vendian.