

Revision of the taphonomy of *Corumbella weneri* from the Tamengo Formation (Corumbá-MS)

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During the past 50 years of research Ediacaran biodiversity has increased and, in general, several Phanerozoic diploplast and triploblast form groups can now be identified. Notably most metazoans (and other groups) were usually “soft-bodied”, which severely restricts their preservational potential, but nevertheless, not only in fine-grained sedimentary lithologies direct imprints of “true body” morphologies are preserved, but also in coarse-grained sandstones and in limestones. Further-more, metazoan traces and tracks (“trace fossils”) are found in many types of Ediacaran rocks, which document that many of these body fossils were mobile, too. However, the Ediacaran “zoological garden” distinctly lacked animal forms possessing mineralized internal or external shells or skeletons – with only a few exceptions: the terminal Ediacaran tuboid form groups, such as *inter alia* *Sinotubulites*, *Conotubus*, cloudinids and *Corumbella*.

The tubular late Ediacaran fossil *Corumbella weneri* Hahn et al. 1982 is revised based upon both two-dimensionally compressed and three-dimensionally preserved material from the original localities near the city of Corumbá, Mato Grosso do Sul in west-central Brazil. The original definition of this probably oldest skeletonized fossil was based on secondary (post-mortem) flattened specimens which lead to subsequent misinterpretations of this fossil as an Ediacara-type fossil or as a conulariid exoskeleton. New three-dimensionally preserved material discovered at the quarry “Corcal”, Corumbá, now permits a review of the morphology and taphonomy of *Corumbella weneri* revealing its assignment to the form group of tubular cloudinids (Family Cloudinidae; cp. Hahn and Pflug 1985). Phylogenetic and systematic relations of *Corumbella weneri* to conulariid scyphozoans are strongly challenged and herewith rejected based on various morphological traits observed on 3D-material. Based on the new fossil material, an emended diagnosis and description of *Corumbella weneri* Hahn et al. 1982 will be provided.

After analysis and re-interpretation of its biostratigraphy and preservational features it is here proposed that *Corumbella weneri* (Hahn et al. 1982) was a radially symmetric externally anterior to posterior segmented erect cloudiniid of potentially phylogenetic relationship to recent pogonophoran (polychaete) “tube worms”; it presumably represents the earliest metazoan with a CaCO₃-secreted shell and had a highly prospective descendant relationship with the non-mineralized progenitor *Shaanxilithes* of China and India.

Palavras-Chave: CORUMBÁ GROUP, TAMENGO FORMATION, CORUMBELLA, TAPHONOMY