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A bizarre new brachiopod genus from the Cantabrian Mountains (northern Spain, Lower Devonian)

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Leonispirifer nom. nud., a new delthyridoid brachiopod genus, externally characterized by a capillate micro-ornamentation with marginal micro-spines, is identified from the Emsian La Vid Group (Lower Devonian) in its type section "La Vid" in the Cantabrian Mountains in northern Spain. The new genus is defined by very few, simple, and coarse ribs that are angular in cross-section and a brachidium consisting of spirals with a small diameter which are oriented in a posterior direction. The type species of the new genus, *Leonispirifer leonensis* nom. nud., is described. Its phylogenetic origin from *Howellella* through European forms of *Mauispirifer* and its development out of *Filispirifer* is discussed. Due to the capillate micro-ornamentation, the coarse ribs, the strong curvature, and the highly elevated fold, *Leonispirifer* is assigned to the family Filispiriferidae. In the past representatives of *Leonispirifer* have often been mis-identified as *Acrospirifer*, from which they are easy to distinguish by a different micro-ornamentation, capillate *versus* fimbriate (= rows of micro-spines without capillae at the edge of each growth lamellae), less ribs, and the lack of a median rib in the sulcus.

For the first time 3D reconstructions after digitized acetate peels of serial sections of a scanning distance of 100 µm of *Filispirifer* and *Leonispirifer* using the program SPIERS are prepared showing the different orientation of the spiralia, laterally *versus* posteriorly, of these two genera.

An attempted reconstruction of the life habit with special attention to the filter-feeding-system of the lophophores of *Leonispirifer* is introduced. Based on the strong curvature, especially of the dorsal valve, and the lack of mucronate cardinal extremities, *Leonispirifer* is considered as a representative of the „*Paraspirifer*-morphotype“; *Leonispirifer* and *Paraspirifer*, both of them describing the „*Paraspirifer*-morphotype“, are compared considering the form of ribs, the dorsal curvature, the development of secondary shell material in the apical region, and the orientation of the brachidium. Due to the preservation of internal and external moulds, the orientation of the brachidium of *Paraspirifer* from Emsian strata in Germany remains unknown. Instead a 3D image of the Middle Devonian *P. bownockeri* from the Silica Shale of the US is given for comparison showing the orientation of the brachidium in a lateral direction. *Leonispirifer* is hitherto known from the Emsian (upper Lower Devonian) La Pedrosa Formation of the La Vid Group in northern Spain and probably from the Siegenian (middle Lower Devonian) Assa Formation ("Rich 1") in Morocco. According to Early Devonian palaeobiogeography, both regions belong to the northern shelf of Gondwana.

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