



A new species of *Filispirifer* (Brachiopoda: Delthyridoidea) from the Dra Valley, Morocco (Lower Devonian)

MENA SCHEMM-GREGORY

Forschungsinstitut und Naturmuseum Senckenberg, Paläozoologie III, Senckenberganlage 25, D-60325 Frankfurt am Main, Germany. E-mail: Mena.Schemm-Gregory@senckenberg.de

Abstract

A new species of *Filispirifer* is described from the Lower Devonian Assa Formation of the Dra Valley (Morocco). *Filispirifer hamadae* n. sp. differs from the other taxa of *Filispirifer* in having a smaller shell, fewer costae, a lower ventral interarea, a smaller ventral process, and a less conspicuous dorsal adductor field. Due to their micro-ornamentation, the capillate Rhenish delthyridoid genera, *Filispirifer* and *Mauispirifer*, are excluded from the fimbriate family Acrospiriferidae and put together in the new family Filispiriferidae. The evolutionary lineage of *Filispirifer* and its palaeobiogeographic occurrence are briefly described.

Key words: *Filispirifer*, Filispiriferidae, Delthyridoidea, Brachiopoda, Lower Devonian, Morocco

Introduction

Continued palaeontological exploration of the Dra Valley (southern Anti-Atlas Mountains, Morocco) has revealed the existence of highly diverse Lower Devonian brachiopod faunas (e.g., Drot 1964; Jansen 2001a). The taxonomic study of these brachiopods has led to a detailed correlation of the Dra Valley to Western and Central European successions, and to new implications on palaeobiogeography considering the phylogenetic relationships between Morocco, Europe, and North America during this time span (Jansen 2001a; Jansen *et al.* 2007; Schemm-Gregory in press; Schemm-Gregory in review).

Until the end of the last century, taxa of *Filispirifer* Jansen, 2001 had been determined as species of *Acrospirifer* Helmbrecht & Wedekind, 1923. The genus *Acrospirifer* is restricted from the Siegenian (middle Lower Devonian) to the lowermost Emsian (upper Lower Devonian) of Europe but due to old and poorly constructed diagnoses, almost all medium-sized to large spiriferids with coarse costae have been determined as *Acrospirifer* resulting in a erroneous global reports of this genus (Jansen 2001b; Schemm-Gregory 2007). Gourvenec (1989) revised *Acrospirifer* and gave capillate micro-ornamentation as one of its main characters. Carter *et al.* (1994) followed this erroneous concept for the new spiriferid systematics in the pre-publication of the *Treatise on Invertebrate Paleontology*. Jansen (2001a) established *Filispirifer* after comparison with the type material of the type species *primaevus* (Steininger, 1853) of *Acrospirifer*, that shows a well developed fimbriate micro-ornamentation with single rows of micro-spines at the edge of each growth lamella (Jansen 2001b: pl. 3 figs 1–7), from which *Filispirifer* differs in its capillate micro-ornamentation and a weakly or undeveloped dorsal median process (see also Jansen 2001b). At the 4th International Brachiopod Congress, Jansen (2000) announced the misunderstanding of the *Acrospirifer* micro-ornamentation and the resulting erroneous concept of the genus. However, in the recently published *Treatise on Invertebrate Paleontology* Johnson & Hou (2006) still considered *Acrospirifer* and the Acrospiriferidae Termier & Termier, 1949 as capillate, consequently, the systematics of this delthyridoid group of spiriferids has to be revised again.