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Abstracts

Sven HARTENFELS, Hans-Georg HERBIG, Michael R.W. AMLER
& Markus ARETZ (Eds.)

CARBONIFEROUS	Pennsylvanian	Upper	Gzhelian
			Kasimovian
		Middle	Moscovian
	Lower	Bashkirian	
	Mississippian	Upper	Serpukhovian
		Middle	Visean
		Lower	Tournaisian
	PERMIAN	Lopingian	Changhsingian
			Wuchiapingian
		Guadalupian	Capitanian
Wordian			
Roadian			
Kungurian			
Cisuralian		Artinskian	
		Sakmarian	
	Asselian		

Institut für Geologie und Mineralogie der Universität zu Köln

Tournaisian and Viséan (Carboniferous) brachiopods from neptunian dykes of the Harz Mountains (Germany)

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Lower Carboniferous macrofaunas from the marine sediments “covering” the drowned Iberg-Winterberg Devonian seamount near Bad Grund (northwestern Harz Mountains) in Germany (Fig. 1.1) were first described by F.A. ROEMER, who reported few productidins, rhynchonellids and spiriferids. Four Carboniferous limestone “horizons” are distinguished (Fig. 1.2). The three older ones are only found in neptunian dykes; the youngest *Ibergirhynchia* Limestone is sometimes also seen as a transgressive layer, horizontally overlying the Frasnian Iberg Limestone. Some provisional names were proposed for these distinct horizons: Erdbach Limestone (obviously identical with the Erdbach Limestone II in the Rhenish Massif, see below), *Actinotheca* Limestone (introduced by MOTTEQUIN & WEYER 2019), and Goniatite Limestone (classical since ROEMER 1852).

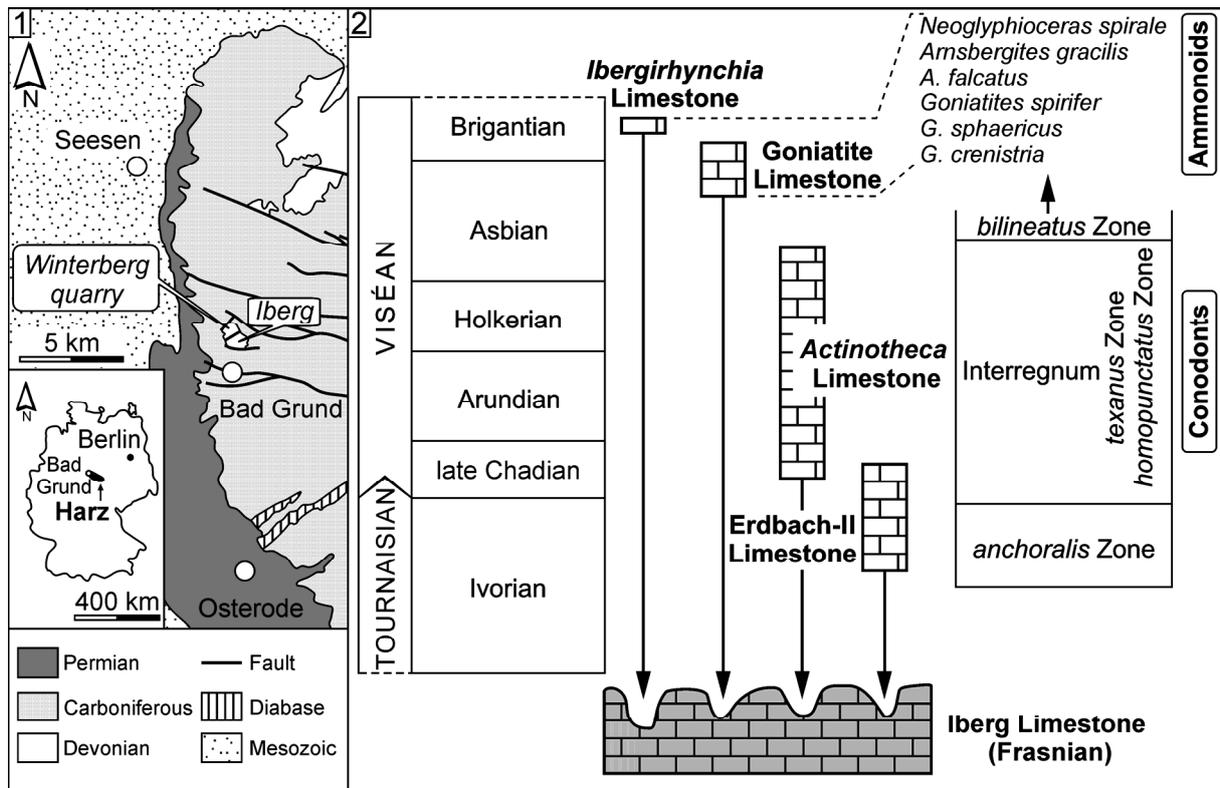


Fig. 1: 1. Schematic geological map of the Upper Harz Mountains (Germany) with location of the fossiliferous localities cited in the text (modified from GISCHLER 1994). 2. Stratigraphy of the Mississippian limestones occurring in neptunian dykes in the Frasnian Iberg Limestone, Winterberg-Iberg Quarry near Bad Grund, Harz Mountains (modified from MOTTEQUIN & WEYER 2019; the age of the Erdbach-II Limestone is determined both by the upper Ivorian conodont *Scaliognathus anchoralis* and by the ammonoid genus *Ammonellipsites* flourishing during the late Chadian after its first occurrence in the Ivorian).

Tournaisian and Viséan brachiopods from the neptunian dykes (except those from the *Ibergirhynchia* Limestone) were investigated on the basis of old collections (Clausthal-Zellerfeld University) and recent samplings by one of us (D. W.) and his colleagues H. KNAPPE, H. RUHMER, and F. TROSTHEIDE. They seem to be dominated by spire-bearers (Athyririda, Spiriferida), but it is evident that new biostratigraphically-constrained (e.g., conodonts) samplings will permit to refine the data related to the species currently known only by specimens from the old collections. Brachiopods are not remarkably diverse, and almost monospecific assemblages occur. Productids (*Tornquistia?*, *Quadratia?*), orthids (*Schizophoria*), athyririds (*Cleiothyridina?*), and spiriferids (*Crurithyris*, *Brachythyris?*, *Roemerithyris*, *Felsithyris*, reticulariid gen. nov.) were recognized among the available material (MOTTEQUIN & WEYER 2019). The spiriferids are the most abundant and notably include the upper Viséan species *Spirifer macrogaster* ROEMER, 1852 (= *Roemerithyris macrogaster*; Fig. 2.1–5). The latter progressively became a catch-all species in which numerous distinct taxa were included, notably athyririds, rhynchonellids and other, sometimes really homeomorphic (externally) spiriferids. As explained above, only one almost monospecific assemblage including *Quadratia?* sp. indet. and *Felsithyris hercynica* (Fig. 2.6–10) was collected in-situ within the *Actinotheca* Limestone composed of hard grey limestones yielding crinoids, rugose and tabulate corals (*Amplexus*, *Actinotheca*) and trilobites. Among this assemblage, *F. hercynica* is by far the most common taxon and the largest brachiopod collected so far within the Carboniferous succession of the Winterberg Quarry (Fig. 1.1).

Limestones similar to those occurring in the Iberg-Winterberg locality are well-known in the Rhenish Massif (Erdbach Limestone of late Tournaisian–basal Viséan age; e.g., AMLER et al. 2008), and similarities between the Harz and the Rhenish Dill Syncline brachiopod assemblages were already stressed by HOLZAPFEL (1889), but it appears that a revision of HOLZAPFEL's (1889) brachiopod material is urgently needed.

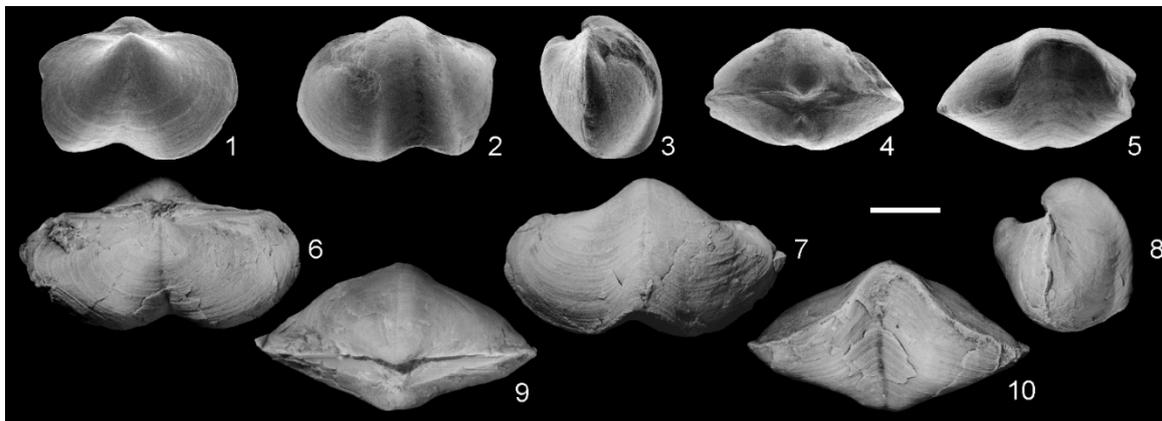


Fig. 2: Mississippian spiriferids (in ventral, dorsal, lateral, posterior and anterior views) from the Iberg-Winterberg locality near Bad Grund (Harz Mountains). 1–5. *Roemerithyris macrogaster* (ROEMER, 1852), lectotype, Iberg (Goniatite Limestone, late Asbian, perhaps also early Brigantian) (SEM). 6–10. *Felsithyris hercynica* MOTTEQUIN & WEYER, 2019, holotype, Winterberg Quarry (*Actinotheca* Limestone, *Pseudognathodus homopunctatus* Zone). Scale bar: 5 mm (1–5), 10 mm (6–10).

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