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Ber. Inst. Erdwiss. K.-F.-Univ. Graz	ISSN 1608-8166	Band 14	Graz 2009
Paleozoic Seas Symposium	Graz, 14-18th September 2009		

Articulated exoskeleton of the trilobite *Spinibole* (*Spinibole*) *olgae* CHLUPÁČ, 1966 in the Moravian Karst (Trilobita, Czech Republic)

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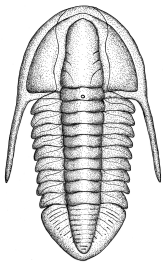
Up to now the fossiliferous Březina Shale has been recorded from the following four localities in the Moravian Karst: Březina, Zbrašov, Říčka Valley and Mokrá quarry. A new occurence of Lower Carboniferous trilobites has been discovered in the vicinity of Březina village, in a forested area, about 200m W from a cottage, 80m from the southern end of the field (Fig. 1). There the co-author found a few fossiliferous slabs and dug several sporadic pits.
There is only one single species so far [*Spinibole* (*Spinibole*) *ruethenensis* HAHN & HAHN, 1969] in which articulated specimens have been described. At least the holotype (HAHN & HAHN 1969: Taf. 2, Fig. 5) and the paratype specimens (HAHN & HAHN 1969: Taf. 2, Fig. 6) are completely preserved. The holotype of *Spinibole* (*Spinibole*) *sugambra* BRAUCKMANN, 1974 (BRAUCKMANN 1974: 116, Fig. 3) is a rather complete but poorly preserved exuvia with a slightly disarticulated cephalon. *Spinibole* (*S.*) *olgae* CHLUPÁČ, 1966 was for the first time discovered and described from the eastern part of a field near Březina village (CHLUPÁČ 1966); of this species isolated cranidia, free cheeks, thoracic segments and the pygidia are known since CHLUPÁČ'S researches in the Moravian Karst during the 1960ies.

Systematic part

Phylum Arthropoda
Family Phillipsiidae OEHLERT, 1886
Subfamily Cystispininae HAHN & HAHN, 1982
Genus *Spinibole* CHLUPÁČ, 1966
Spinibole (*Spinibole*) CHLUPÁČ, 1966
Type species: *Spinibole* (*Spinibole*) *olgae* CHLUPÁČ, 1966

Spinibole (*Spinibole*) *olgae* CHLUPÁČ, 1966

1966 *Spinibole olgae* – CHLUPÁČ, The Upper Devonian and Lower Carboniferous Trilobites of the Moravian Karst: 69, pl. 13, figs. 1-17, text-fig. 20
Holotype - The cranidium figured by CHLUPÁČ (1966): Pl. XIII, fig. 15, text.-fig. 20, deposited in the Czech Geological Survey (ICH 2009).
Type locality and horizon: Field on a ridge S of the Březina village, the Moravian Karst, Czech Republic.
Original material: More than hundret cranidia, about fifty free cheeks, eighty pygidia, numerous thoracic segments.
New material - one cranidium, one cephalon, one pygidium and one articulated exoskeleton (SR 1).
Diagnosis - See CHLUPÁČ (1966)



Note on the preservation - The articulated exoskeleton is strongly dorsoventrally flattened and laterally deformed, which is a typical taphonomy sign for the pelitic facies (CHLUPÁČ 1966). The right lateral lobe is removed to the rhachis and the right genal spine is partly removed to the thorax. Both librigenae are replaced backwards to the fourth rhachis ring. The glabellar furrows and the occipital ring are effaced. The thorax consists of nine wide and convex rhachis rings. The pygidum has a narrow subtriangal outline, with a narrow border margin; its rhachis is narrow and rather convex, with eight rings.

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Discussion

In comparison with *Spinibole* (*S.*) *ruethenensis*, the whole carapace of *S.* (*S.*) *olgae* is narrower, the shape of its cephalon is more semielliptic, and the frontal glabellar lobe is not inflated. In *S.* (*S.*) *ruethenensis* the genal spines are directed nearly backwards whereas in *S.* (*S.*) *olgae* they are curved a little bit posterolaterally and their base is marked by a distinct concave lace.

As far as can be judged from the rather poorly preserved materials, *S.* (*S.*) *sugambra* seems to be more close to *S.* (*S.*) *olgae* by its narrow shape and the non-inflated frontal glabellar lobe; it differs mainly by course of the facial sutures with the palpebral lobes beeing situated more posteriorly. It cannot be excluded that further and better materials of *S.* (*S.*) *sugambra* will show that it represents a subspecies of *S.* (*S.*) *olgae*.

Conclusions

A typical trilobite association – fully comparable to the association described by CHLUPÁČ (1966) – was found during the new excavations. It consists of the following taxa: *Chlupacula* (*Chiides*) *moravica* (CHLUPÁČ, 1956) [previously assigned to *"Drevermannia" moravica* CHLUPÁČ, 1956, and later grouped with *Lichanocoryphe* OWENS & TILSLEY, 1995; new assignment by HAHN & HAHN 2002]; *Archegonus* (*Phillibole*) *habena* OWENS & TILSLEY, 1995 [= "*Cyrtosymbole* (*Macrobole*)" aff. *blax* RICHTER & RICHTER, 1951 (in CHLUPÁČ 1966)]; *Archegonus* (*Phillibole*)? sp.; *Liobole* (*Liobole*) *glabra proxima* CHLUPÁČ, 1966. Among the associated faunal components, there were also collected isolated valves of brachiopods, ossicles and columns of crinoids as well as poor remains of other groups of fossils.

Acknowledgments

I am very grateful to Carsten Brauckmann (Clausthal – Zellerfeld, Germany), Rudy Lerosey - Aubril (Clermont, France) and Oldřich Fatka (Charles University, Prague) for their valuable comments and kind help during my study. The Grant Agency of the Czech Academy of Science has supported this research by means of the project no. 42-201 598.

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Zeitschrift/Journal: Berichte des Institutes für Geologie und Paläontologie der Karl-Franzens-Universität Graz

Jahr/Year: 2009

Band/Volume: 14

Autor(en)/Author(s): Rak S., Viktorýn Tomasovec

Artikel/Article: Articulated exoskeleton of the trilobite Spinibole (Spinibole) olgae CHLUPÁC, 1966 in the Moravian Karst (Trilobita, Czech Republic). 65-66