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Review of palaeozygopleurid gastropods (Palaeozygopleuridae, Gastropoda) from Devonian strata of the Perunica microplate (Bohemia), with a re-evaluation of their stratigraphic distribution, notes on their ontogeny, and descriptions of new taxa

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Abstract

Review of all species of the family Palaeozygopleuridae Horný, 1955 (Gastropoda) known from the Perunica microplate (Bohemia) is presented with a description of three new species, *Palaeozygopleura lukeši* **sp. nov.**, *Cimrmaniela sveraki* **gen. et sp. nov.** and *Cimrmaniela smoljaki* **gen. et sp. nov.** The stratigraphic distributions of the most of Bohemian palaeozygopleurid species are either corrected or refined, based on new records or modern stratigraphic studies. A complete list of the geographic occurrences of all known palaeozygopleurid gastropods from the Perunica microplate is also given together with notes on their ontogeny.

Key words: Gastropoda, Palaeozygopleuridae, *Palaeozygopleura*, *Cimrmaniela* gen. nov., Devonian, Europe, Perunica, new taxa

Introduction

Palaeozygopleurids represent a distinctive gastropod group, which occurred in the Devonian strata of Variscan Europe (Horný 1955; Frýda 1993, 1999, 2000; Blodgett *et al.* 1999; Frýda & Bandel 1997; Heidelberger & Bandel 1999; Heidelberger 2001, 2007; Krawczyński 2002, 2006; Frýda *et al.* 2008), northern Gondwana (De Baets *et al.* 2010), Laurentia (Linsley 1968; Rollins *et al.* 1971; Blodgett & Johnson 1992), Alaskan terranes (Blodgett 1992; Frýda & Blodgett 2004), central Asia (Gubanov *et al.* 1995) and Australia (Tassell 1982; Cook 1995; Cook & Camilleri 1997; Cook *et al.* 2003). Blodgett *et al.* (1988, 1990) interpreted this gastropod group as a typical element of the Old World Realm of Early Devonian age. The oldest (and only) Silurian species of palaeozygopleurid gastropods belongs to the genus *Medfrazyga* Frýda & Blodgett, 2004, and was found in the Heceta Formation in the Alexander terrane on Prince of Wales Island, south-eastern Alaska (Rohr *et al.* 2008). Recent palaeobiogeographic studies indicate that the Alexander terrane is faunally most similar to Siberia (Blodgett *et al.* 2002, 2003; Pedder 2006), notably its eastern portion. It is now considered that this terrane most likely originated as a rifted block of the eastern Siberian palaeocontinent, probably breaking away in the later part of the Devonian (Blodgett *et al.* 2010). Silurian Bivalvia from Chichagof Island, Southeast Alaska (Alexander terrane), seem to be very similar to the homologous and analogous late Wenlockian Bivalvia communities described from Gotland, Sweden and Baltica (Kříž *et al.* 2011). The fauna of the Alexander terrane is altogether different in species composition from the NW part of the non-accretionary portion of North America (i.e., Laurentia), although both regions belong to the Old World Realm. Hitherto no palaeozygopleurid gastropod was recorded from the non-accretionary portion of North America, belonging to the Western Canada Province, established by Blodgett *et al.* (2001), although the latter province clearly belongs to the Old World Realm (Frýda *et al.* 2002, 2008, 2011). The family Palaeozygopleuridae probably originated in the Old World Realm (Frýda 1993).