

KEUPER INVERTEBRATES FROM THE UPPER SILESIA

(only illustrated taxa)

Taxon, as revised or originally described (selected synonyms)	Occurrence: site(s), lithostratigraphic setting, age [within the Grabowa Fm; Szulc et al. 2015a]	Primary source(s) (with illustration)	Secondary source(s) (listed only)	Remarks
GASTROPODA - MOLLUSCA				
<i>Paludina(?)</i> sp.	Zogelberge bei Woischnik: Middle Keuper "Woischniker Kalke" [Norian Woźniki Mbr]	Roemer (1870), vol. I – p. 186, vol. II - Pl. 15, Fig. 12		Only macrofaunal taxon identified in Woźniki Mbr
BIVALVIA - MOLLUSCA				
<i>Silesunio parvus</i> Skawina & Dzik, 2011	Krasiejów: "Late Carnian calcareous mudstones" [Norian Patoka Mbr – Krasiejów level]	Skawina & Dzik, (2011) , pp. 874-877, Figs 1, 2A, 7-9)		New species and new genus placed in the new family Silesiunionidae
<i>Tihkia(?) silesiaca</i> Skawina & Dzik, 2011	Lisowice - Lipie Śląskie: fluviatile sandstone unit of "early Rhaetian" age; Zawiercie Marciszów [Norian Patoka Mbr – Lisowice level]	Skawina & Dzik, (2011) , pp. 878-879, Figs 10, 11)		The species includes both large- (up to 8 cm; Lipie Śląskie) and small-sized specimens (Marciszów; see Szulc et al. 2015b , Fig. 15C, E; Szulc et al. 2015a , Fig. 16A)
<i>Unio keuperinus(?)</i> Berger, 1854	(1) Niwki, NE of Siewierz; (2) Lisów: Middle Keuper "Lissauer Breccie" [Norian Patoka Mbr]	Roemer (1870), vol. I – pp. 185-186, vol. II - Pl. 15, Fig. 13	Śliwiński (1964) , p. 41, confirmed occurrence of <i>U. keuperinus</i> in Poręba-Zawiercie area	Occurs in coquinoïd accumulation (at Niwki quarry)
<i>Unionites posterus</i> (Deffner & Fraas, 1859)	Zawiercie vicinity (borehole), "Rhaetian" Cyclothem R II ₁ (Warta) [Norian Patoka Mbr]	Dadlez & Kopik 1969 , pp. 139-141, Pl. 2: 11-13; Grodzicka-Szymanko 1971 , Pl. 2, Figs 1-2;	Grodzicka-Szymanko & Orłowska-Zwolińska (1972) , Table 1 and p. 222	Deczkowski et al. (1997) linked <i>U. posterus</i> with the Norian stage (compare Kopik 1967)

<i>Unio</i> sp.	Niwki, NE of Siewierz: Middle Keuper "Lissauer Breccie" [Norian Patoka Mbr]	Roemer (1870), vol. I – p. 186, vol. II - Pl. 15, Fig. 14.	The genus cited by Śliwiński (1964) , p. 39, from bivalve layer of the Lower Keuper (Zabijak, N of Siewierz; Gołuchowice, small-sized variety below 1 cm)	Illustrated right valve by Roemer (1870) was found at Mokra near Kielce
CONCHOSTRACA - CRUSTACEA				
<i>Estheria minuta</i> Jones, 1862 (<i>Posidonia minuta</i> Alberti 1832) (for full synonymy see http://www.terra-triassica.de/museum-terra-triassica/sammlung-und-werkstatt/makrofossilien/arthropoda-siebold-stannius-1845/crustacea-pennant-1777/conchostrace-sars-1867/euestheria-minuta/)	Paulsdorf bei Landsberg (Pawłowice near Gorzów Śląski): Rhaetian "Hellewalder Estherien-Schichten" [Rhaetian part of Patoka Mbr or a new unit]	Roemer (1870), vol. I – pp. 175-176, vol. II - Pl. 15, Figs 10-11.	Roemer (1870, p. 155) , Małeck (1962) , Śliwiński (1964, p.) , Bilan (1975, 1976a) listed this common species from the Lower Keuper, Reed Sandstone (Bolesław Fm) and Lower Gypsum Beds (Chrzanów Fm)	After Roemer (1870) , the Silesian conchostracan represents the Rhaetian variety <i>brodieana</i> (p. 176; compare Kozur & Weems 2007), and occurs in high-density shell pavements
<i>Laxitextella seegisi</i> Kozur, 2007 in Kozur & Weems, 2007 [= <i>Laxitextella</i> sp. A Olempska, 2004]	Krasiejów: "Late Carnian" [Norian Patoka Mbr – Krasiejów level]	Kozur & Weems (2007) , pp. 172-173, Pl. 11, Figs 1, 2, 4 [Olempska (2004) , pp. 436-438, Fig. 8]		Guide species of the <i>Laxitextella seegisi</i> Zone
<i>Laxitextella</i> cf. <i>L. laxitexta</i> (Sandberger, 1871 [probably = <i>Laxitextella laxitexta</i> (Jones, 1890)])	Krasiejów: "Late Carnian" [Norian Patoka Mbr – Krasiejów level]	Kozur & Weems (2007) , p. 154, 161; Olempska (2004) , pp. 435-436, Figs. 5A, 7	Bilan (1975; 1976a) quoted two subspecies of <i>Palaeoestheria laxitexta</i> from the Reed Sandstone (Bolesław Fm)	The question of conspecificity of the both taxa, quoted from Krasiejów, is not accurately explained
<i>Gregoriusella bocki</i> (Olempska, 2004) [= <i>Menucoestheria bocki</i> Olempska, 2004]	Krasiejów: "Late Carnian" [Norian Patoka Mbr – Krasiejów level]	Kozur & Weems (2010) , p. 393; Olempska (2004) , p. 439, Figs. 5C, D, 9.	Kozur & Weems (2007) , p. 141;	The species so far has been found only in the Krasiejów locality
<i>Krasiestheria parvula</i> Olempska, 2004	Krasiejów: "Late Carnian" [Norian	Olempska (2004) , p. 440,		The species (and the new genus)

	Patoka Mbr – Krasiejów level]	Fig. 11.		so far has been found only in the Krasiejów site
<i>Menucoestheria(?)</i> sp.	Krasiejów: „Late Carnian” [Norian Patoka Mbr – Krasiejów level]	Olempska (2004) , pp. 439-440, Figs. 5B, 10.		
<i>Eosolimnadiopsis(?)</i> n. sp. Kozur, 2007 in Kozur & Weems, (2007)	Krasiejów: Laxitextella seegisi Zone, middle Tuvalian [Norian Patoka Mbr – Krasiejów level]	Kozur in Kozur & Weems, 2007 , p. 172; Pl. 11, Fig. 3		
<i>Gregoriusella polonica</i> Kozur, Niedzwiedzki & Sulej, 2010 in Kozur & Weems (2010)	Lisowice - Lipie Śląskie: plant-bearing mudstones and siltstones, with <i>Rhaetipollis germanicus</i> ; “Lowermost Rhaetian” [Norian Patoka Mbr – Lisowice level]	Kozur, Niedzwiedzki & Sulej in Kozur & Weems, 2010 , p. 393, Fig. A1, 1–10)	Pieńkowski et al. (2014) , p. 6	Thought as the index species of the basal Rhaetian zone, at Lipie above interval with <i>Shipingia</i> sp. and rare small <i>Euestheria</i> sp. (Pieńkowski et al. (2014) , p. 6)
CYCLOIDS - CRUSTACEA				
<i>Opolanka decorosa</i> Dzik, 2008	Krasiejów: „Late Carnian” lacustrine claystone [Norian Patoka Mbr – Krasiejów level]	Dzik (2008) , pp. 1517-1518, Fig. 1G–K (holotype)		
OSTRACODA - CRUSTACEA				
<i>Darwinula wandae</i> Styk, 1972 (Bilan 1980) [= <i>Darwinula(?) wandae</i> Styk, 1972]	Woźniki, Wieluń, Trzebyczka, Poręba, Zawiercie (wells): „Lower Rhaetian”; Bolesław Fm up to the Grabowa Fm. [Stuttgart Fm to Patoka Mbr]	Styk (1972) , pp. 873-874, Pl. 2, Figs 6-8a, b)	Bilan (1976a) , Fig. 2 Bilan (1980)	
<i>Darwinula oblonga</i> (Römer, 1830)	Patoka 1 well, Patoka Mbr (erroneously unspecified in the figure caption)	Olempska in Szulc et al. (2015a) , Fig. 17H	Dzik & Sulej (2007, Fig. 2F) noted this genus at Krasiejów. Two other species (<i>D. sp. 1</i> and <i>D. sp. 2</i>) are listed by Olempska et al. (2012) in Szulc et al.	

			(2015a, p. 578)	
<i>Pulviella silesia</i> (Styk, 1972) Bilan (1991) [= <i>Clinocypris(?) silesia</i> Styk, 1972]	Trzebyczka, Koziegłówki, Łazy (wells): „Lower Rhaetian”; Grabowa Fm. [?Patoka Mbr]	Styk (1972) , p. 273, Pl. 2, Fig. 3a,b	Bilan (1976a) , Fig. 2; Bilan (1991) , Fig. 1	Bilan (1980) assumed the species as an index of two local zones
<i>Suchonella</i> sp.	Krasiejów, Patoka 1 well [Patoka Mbr]	Dzik & Sulej (2007) , Fig. 2G; Olempska in Szulc et al. (2015a) , Fig. 17E-G		