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INDEX OF FOSSILIFEROUS LOCALITIES OF THE MÍLINA FORMATION (LOWER ORDOVICIAN OF THE PRAGUE BASIN, CZECH REPUBLIC)

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Abstract: *Twenty-two fossiliferous localities of the Mílina Formation described herein represent all fossil sites of this unit we have found mentioned in publications. Fossil taxa from relevant papers are summarized and historic names used for the localities are listed. Updated lists of fauna are compiled for each locality; based on these an overall list for the formation is concluded.*

Key words: Ordovician, Mílina Formation, Prague Basin, fossils

INTRODUCTION

This paper is a next contribution to the project, making accessible key data assembled mostly by the senior author on the fossiliferous localities in the Ordovician of the Prague Basin. The aims of this project are explained in a previous paper (Kraft *et al*. 2013). It should be, however, repeated that the series of papers is intended 'to serve as a basic dataset for diverse research in the Ordovician of the Barrandian area and represents an explanatory document in which synonymous names for localities are listed to aid the researcher when using older publications and collections in their research' (Kraft *et al*. 2013). This, the second paper, is focused on the Mílina Formation, a thin but the distinct unit of the Prague Basin.

The Mílina Formation was established to distinguish a part of the section that includes chert beds of various thickness inside the former "Krušná Hora Beds", nowadays situated between the Třenice and Klabava formations. The formation is of limited extent in comparison to both underlying and overlying units and stretches along the middle and south-eastern edge of the relic basin, being missing along its north-western flank. This was explained as representing a regressive event (Kettner 1921, Havlíček & Šnajdr 1956, Havlíček & Vaněk 1966, Havlíček 1998) and sedimentation in shallow marine conditions (Kukal 1963, Havlíček 1998). The cherts represent slightly less than half of the overall thickness of the formation being intercalated with siltstones and lithic sandstones, the latter often containing volcanic glasses (Kukal 1963, Havlíček 1998). All lithotypes are usually red to red-brown in color but locally are apparently originally or secondarily greyish or greyish green.

The fossils found in the Mílina Formation are almost all benthic. Their associations (e.g. Havlíček 1982b, Havlíček & Fatka 1992, Mergl *et al*. 2008, Fatka & Mergl 2009) are of low divesity in general and has been considered as very shallow marine to lagoonal (Havlíček 1982b, Havlíček & Fatka 1992) with deeper-water elements (Mergl *et al*. 2007). However, Mergl (1996, 1997b) suggested taphonomic controls as influencing fundamentally the assemblage diversity and compositions in the Mílina Formation.

The history of the fossil collections and of their studies is very similar to that of the Třenice Formation, because both formations were parts of the unit called the Krušná Hora Beds in past and were

mined and quarried for raw materials (iron ore, crushed and building stone) in a small region, and, especially, have yielded similar fossil contents with a predominance of linguliform brachiopods and locally trilobites. That is also why the geological and paleontological studies are related with the same researchers. The first intensive fossil collections, and subsequent publications of descriptions of fauna and localities were started by C. Klouček from the second half of 1910's (Klouček 1914a, 1914b, 1915a, 1915b, 1917a, 1917b) and continued over some fifteen years. In the next five decades Havlíček (1949, 1951, 1977) described brachiopods, Růžička (1935a, 1935b, 1941), Vaněk (1959, 1965) and some other authors studied trilobites. A subsequent period of more intense interest in the Mílina Formation started in 1980's. Havlíček (1982a and 1994) continued his studies on brachiopods and Mergl (e.g., 1984, 1986) started his detailed research on this formation.

LOCALITIES

For the list of localities to be as easily and clearly understandable as possible the explanations of Kraft *et al.* (2013) are repeated:

'Only the Mílina Formation localities which are known to have yielded or, in some cases, possibly yeilded the fauna are included in the list. Records with insufficiently documented localities and lists of ambiguous fossils are ommitted. This approach significantly impacts old papers in which fossils from several formations were listed as a single assemblage.

Localities are listed in alphabetical order and their descriptions are structured as follows: brief geographical location (geographic co-ordinates if available), lithology, general remarks, references, and updated revised taxonomic list. The references are ordered chronologically. The original locality name or names used in a publication follows the

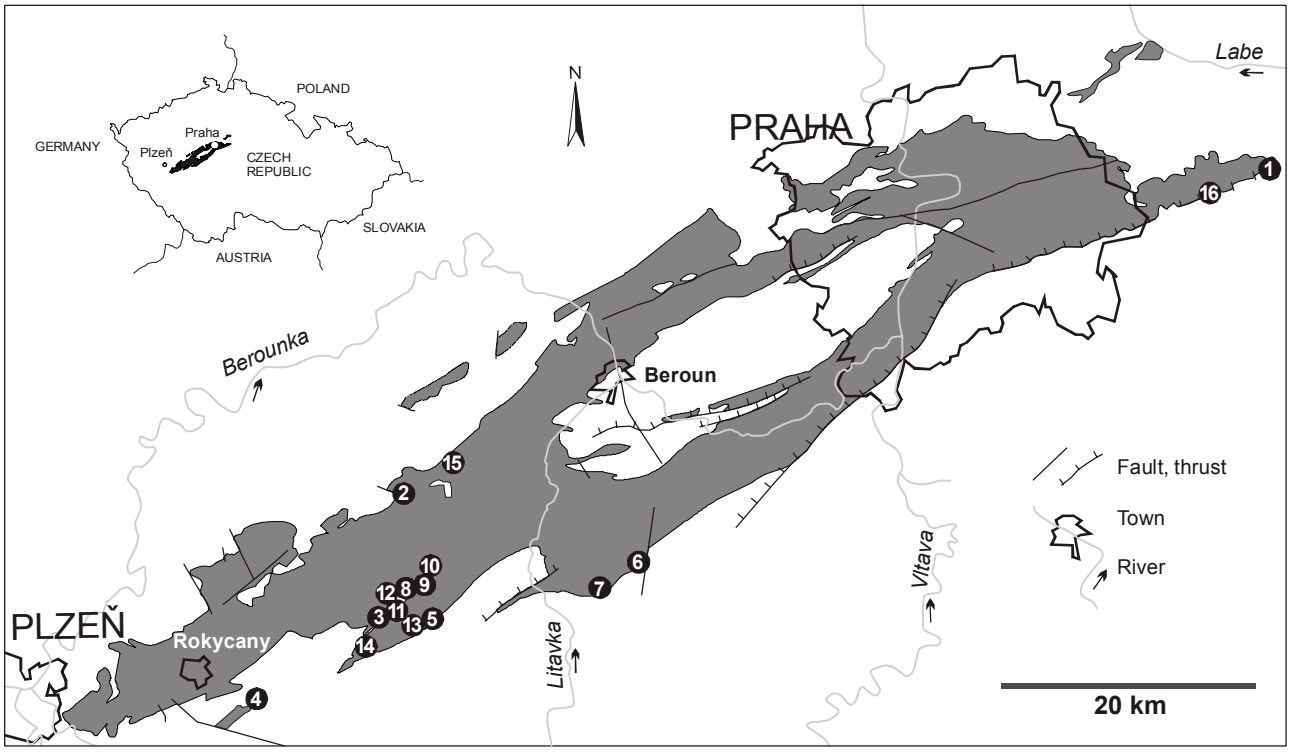

Figure 1. *Sketch map of the Prague Basin relic and positions of the described localities. Location of the Prague Basin (black) in the Czech Republic (left up). The localities are ordered as in the text; those situated close to each other are plotted as a single point. 1 – Březany – "Na Chrástnici" Quarry; 2 – Cerhovice – Cerhovská hora Hill; 3 – Cheznovice – Žlebec; 4 – Dobřív; 5 – Horní Kvaň – field; 6 – Hostomice – Babí štola Gallery; 7 – Hostomice – Písek Hill; 8 – Jívina – quarries, Jívina Hill; 9 – Kleštěnice – Jalový potok Brook; 10 – Komárov; 11 – Mílina Hill; 12 – Olešná – quarry; 13 – Svatá Dobrotivá, Zaječov – Hrbek Hill, Zaječov – quarry near the school bulding; 14 – Těně – west, Těně; 15 – Točník; 16 – Úvaly – shaft, Úvaly – Vinice, Úvaly.*

authors, the original list of taxa (including author and year, and errors; original letter style is ignored and italics are used for latin in modern way) are listed. Translations to English are placed in square brackets for the localities with obscure or difficult names. Original Czech or German descriptions of fossils are supplemented with verbatim English translations in square brackets. These reports are important in illustrating the history, the availible taxa, as currently identified, for systematic studies. Old papers written in Czech, French or German will now have English translations of pertinent parts.

The last section below is a complete updated list of that in Havlíček & Vaněk (1966).

Institutional abbreviations:
MM – Czech Geological Survey, collection of Michal Mergl
NM – National Museum in Prague,
PCZCU – Faculty of Education, University of West Bohemia.

LIST OF LOCALITIES

Březany – "Na Chrástnici" Quarry

Geography: Large abandoned quarry 700 m east-north-eastern of the village of Březany II (distance and direction related to the church in the centre of the village), ~ 27 km east of Prague (measured from the center of the city). Potected area PP Chrástnice. (Coordinates read from map: N 50° 05' 44.5" E 14° 48' 54.5" for center of the quarry). Cadastre of Březany II, District of Kolín.
Lithology: Lithic sandstones.
Remark: The fossiliferous Třenice Formation also occurs at this locality. For details see Kraft *et al.* (2013, p. 35).

Havlíček (1982a): Březany, Chrástnice Hill (quarry); Březany.
Thysanobolus lingulides sp. n.
Thysanobolus giganteus (Koliha, 1937)
Thysanotos siluricus (Eichwald, 1840)

Mergl (2002): Březany II (Na Chrástnici quarry); Březany II ("Na Chrástnici" Quarry); Březany II (lom "Na Chrástnici" – "Na Chrástnici" quarry).
Leptembolon insons (Barrande, 1879) (The occurrence of this species, which ranges from the Třenice to the Klabava Formation, cannot be proved based on the list in that paper at this locality where the Třenice and Mílina formations are in succession.)
Thysanotos siluricus (Eichwald, 1840) (This species is not mentioned from this locality in the list of occurrences and the specimen on pl. 20, fig. 9 comes from the Třenice Formation, i.e. this species does not occur in the Mílina Formation at this locality.)
Orbithele maior Mergl, 1981

Updated list of fauna:
Leptembolon insons (Barrande, 1879)
Orbithele maior Mergl, 1981

Cerhovice – Cerhovská hora Hill

Geography: Old infilled quarries, and small natural exposures in the eastern and south-eastern slopes of the Cerhovská hora Hill (also called Třenická hora Hill) near the village of Cerhovice, ~ 1 km north-west of the center of the village, western of Třenice. Cadastre of Cerhovice, District of Beroun.
Lithology: Cherts.
Remark: The fossiliferous Třenice Formation also occurs at this locality. For details see Kraft *et al.* (2013, p. 36).

Kettner (1916a): Cerhovská hora u Třenice (We refer the fossil to this locality as it is mentioned in the chapter on it even if it is not possible to distinguish between cherts from Cerhovská hora and from the neighbouring Kvásek Hill in the text.)
jehličky hub [sponge spicules]
Lingula (Barroisella) insons Barr.

Klouček (1920a): Cerhovská hora; lomy na Cerhovské hoře [quarries at Cerhovská hora Hill].
neobyčejně velká acrotreta [exceptionally large *Acrotreta*]
brachiopod blízký menším varietám druhu *Obolus Feistmanteli* Barr. [brachiopod related to smaller varieties of the species *Obolus Feistmanteli* Barr.]

Koliha (1924): Cerhovská hora.
Lingulella insons (Barr.)

Klouček (1925): Cerhovská Hora.
The author repeated "a brachiopod related to smaller varieties of the species *Obolus Feistmanteli* Barr" as mentioned above and advocates it as an independent species also in connection with a new discovery of *Obolus* n. sp. (?) z blízkosti *Ob. Feist-*

manteli Barr, malá forma [*Obolus* n. sp. (?) related to *Ob. Feistmanteli* Barr, smaller form]from Ouzký near Holoubkov which, however, represents the Třenice Formation.

Andrusov (1925): Cerhovská hora u Cerhovic [Cerhovská hora near Cerhovice]; Cerhovská hora.
Lingulella insons Barr,
zbytky hub [sponge remains]

Kraft (1928): Cerhovská hora.
Baroisella incola Barr.
jehlice hub [sponge spicules]

Klouček (1931a): Cerhovská hora.
Obolus cf. *Feistmanteli*, menší forma [smaller form]

Havlíček (1982a): Cerhovická hora near Cerhovice.
Leptembolon insons insons (Barrande, 1879)

Mergl (2002): Cerhovice (Cerhovská hora Hill); Cerhovice (Cerhovská hora – Cerhovská hora Hill).
Leptembolon insons (Barrande, 1879)
Dactylotreta prisca sp. n.
(The occurrence of both species, which range from the Třenice to the Klabava Formation, cannot be proved based on the lists in that paper at this locality where all these formations are in succession.)

Updated list of fauna:
undetermined sponges
Leptembolon insons (Barrande, 1879)
Dactylotreta prisca Mergl, 2002

Cheznovice – Žlebec

Geography: Wooded dumps of former iron ore mine in Žlebec near prominent bends in the Strašice-Olešná road, 1.1 km south-east-south of chapel in the village of Cheznovice. (GPS coordinates: N 49° 46' 13.1", E 13° 47' 33.3"). Cadastre of Cheznovice, District of Rokycany.
Lithology: Cherts.
Remark: The fossiliferous Třenice Formation also occurs at this locality. For details see Kraft *et al.* (2013, pp. 36–37).

? Katzer (1900): Steinbruch bei der Côte 522 nahe östlich an der Strasse von Mauth nach Volešná im Walde [a quarry near the elevation point 522 m, close to east of the road from Mýto to Olešná] – The description of the locality fits the location of the quarry near Žlebec on the map of the so-called Third Military Survey (1877–1880). There is only the Třenice Formation known from the preserved part of the quarry nowadays. However, Katzer (1900) described the fossils from chert nodules ("hornsteinartigen Knollen") which better correspond to the Mílina Formation rather than other units.
kleine Hexactinelliden-Nadeln [small hexatinellid spicules]

Mergl (2002): Cheznovice (Žlebec).
Leptembolon insons (Barrande, 1879) (The occurrence of this species, which ranges from the Třenice to the Klabava Formation, cannot be proved based on the list in that paper at this locality where the Třenice and Mílina formations are in succession.)

Mergl (2011b): Haldy dobývacího pole [heaps inside the mining area]; S of Cheznovice, Žlebec u Cheznovic [Žlebec near Cheznovice].
Leptembolon insons (Barrande, 1879)
Dactylotreta sp.
Orbithele
jehlice hub [sponge spicules]

Updated list of fauna:
undetermined sponges
Leptembolon insons (Barrande, 1879)
Dactylotreta sp.
Orbithele sp.

Dobřív

Geography: Exact locality unknown.
Lithology: Red-brown limonitic iron ore.
Remark: This locality is related to the single trilobite specimen, the holotype of *Harpides grimmi*. The history of this famous fossil is well-known but its location origin is enigmatic. It is for sure that it was not discovered at any locality described herein. The most probable area of the locality is situated SE of Rokycany between the villages of Kamenný Újezd and Dobřív. We use the name Dobřív based on the original designation. For detailed discussion see Fatka *et al.* (2013).

Barrande (1872): Katschina, au dessous de Dobrziv, au S. E. de Rokitzan, dans la minière de fer nommée Maria Vermählung [Katschina, below

Dobrziv, SE of Rokycany, iron ore mine called The Marriage of the Virgin Mary Mine]; Kačina près Dobrživ [Kačina near Dobrživ].
Harpides Grimmi. Barr.

Novák (1876): Nedaleko „Kačiny" blíže Dobříva, jihovýchodně od Rokycan, doly železné [Near "Kačina" close to Dobřív, south-east of Rokycany, iron ore mines].
Harpides Grimmi Barr.

Krejčí (1877): Důl na železnou rudu nyní opuštěný (Zasnoubení p. Marie v Kačině) mezi Dobřívem a Strašicemi [Iron ore mine, now abandoned (The Assumption of the Virgin Mary Mine in Kačina) between Dobřív and Strašice].
Harpides Grimmi

Krejčí & Feistmantel (1885): Der Berg Hlava unweit St. Benigna [Hlava Hill near Sv. Dobrotivá].
Harpides Grimmi

Krejčí & Feistmantel (1890): Vrch Hlava nedaleko Sv. Dobrotivé [Hlava Hill near Sv. Dobrotivá].
Harpides Grimmi

Katzer (1892): Kačina-Schacht bei Dobřív [Kačina Mine near Dobřív].
Harpides Grimmi Barr.

Purkyně (1914): Důl poblíže sv. Jakuba u Mirošova [A mine near St. Jacob near Mirošov]; Jakobzeche u Mirošova [Jacob Mine near Mirošov]; železné doly u Kocandy [iron ore mines near Kocanda].
Harpides Grimmi Barr.

Klouček (1924): Býv. důl pod sv. Jakubem při silnici z Kamenného Újezda k Mirošovu [former mine near St. Jacob's Church, near the road from Kamenný Újezd to Mirošov].
Harpides Grimmi Barr.

Koliha (1937): Environs de Sv. Jakub, près de Mirošov [vicinity of St. Jacob's (Church), near Mirošov].
Harpides grimmi Barr.

Prantl (1945): Kutisko „Návštívení Panny Marie" u Mirošova. Nejspíše blíže kaple sv. Jakuba u Mirošova, nedaleko silnice vedoucí z Mirošova k obci Kocandě, dnes dávno splynulé s Kamenným Újezdem [The Visitation Mine near Mirošov. Most probably near the St. Jacob Chapel near Mirošov, close to the road from Mirošov to Kocanda, the latter long being a part of Kamenný Újezd].
Harpides grimmi Barr.

Vaněk (1965): Umgebung von Komárov (?) [surroundings of Komárov].
Harpides grimmi Barrande, 1872

Horný & Bastl (1970): ? Environs of Komárov.
Harpides grimmi Barrande 1872

Mergl (1984): The neighbourhood of Komárov ?; Komárov area ?.
Harpides grimmi Barrande, 1872

Mergl (2006): Mirošov (?), Komárov area ?.
Harpides grimmi Barrande, 1872

Fatka *et al.* (2013): Area north of the Mirošov town; Mirošov area, in an old gallery near the site Kocanda at Hrádek.
Harpides grimmi Barrande, 1852
spicules of hyaline sponges

Updated list of fauna:
undetermined sponges
Harpides grimmi Barrande, 1852

Horní Kvaň – field

Geography: Debris in the fields extended along a low ridge near the south margin of the village of Kvaň, ~ 900 m east of the monastery in Zaječov. Cadastre of Kvaň, District of Beroun.
Lithology: Cherts.
Remark: The fossiliferous Třenice Formation also occurs at this locality. For details see Kraft *et al.* (2013, p. 51).

Mergl (1981): Horní Kvaň, small hill S of the village; Horní Kvaň.
Orbithele maior sp. n.

Havlíček (1982a): Kváň.
Leptembolon insons insons (Barrande, 1879)

Mergl (1984): "Horní Kvaň"; "Horní Kvaň", the field S of the vilage; Kvaň, the field S of the vilage; "Horní Kvaň", a part of Kvaň.
Pyritonema feitmanteli Poč.
Thysanotos siluricus (Eichw.)
Leptembolon insons insons (Barra)
Conotreta turricula Havl.
Orbithele maior Mergl
Conotreta sp.

Jivinella incola (Barrande, 1879)
Poramborthis klouceki Havlíček, 1949
Poramborthis sp.
Nothorthis kvanica sp. n.
Mimospira aff. *helmhackeri* (Per.)
Neptunagnostella peki sp. n.
Geragnostus atavus sp. n.
Parapilekia nana sp. n.
Parapilekia olesnaensis (Růžička, 1935)
Hemibarrandia holoubkovensis (Růžička, 1926)
Niobella sp.
Ceratopyge mareki sp. n.
Orometopus klouceki Vaněk, 1965
Parabathycheilus vagans sp. n.
Eulomina sp.
Holubaspis perneri (Růžička, 1926)
Proteuloma kettneri (Růžička, 1941)
Apatokephalus dagmarae sp. n.
Paleosphaeronites sp.
Glyptosphaeronites sp.
Macrocystella ? sp.

Mergl (1986): Kváň; Horní Kváň.
Leptembolon insons insons
Thysanotos siluricus
Orbithele maior
Conotreta turricula
Conotreta grandis
Eosiphonotreta sp.
Jivinella incola
Poramborthis klouceki
Poramborthis sp.
Nothorthis kvanica
Mimospira aff. *helmhackeri*
trilobites
echinoderms
ostracodes

Havlíček (1994): Horní Kváň; Horní Kváň near Zaječov.
Kvania kvanica (Mergl, 1984)

Mergl (1995): Horní Kváň (slope debris at field); Horní Kváň.
Siphonotretella sp.

Mergl (1997a): Kváň; Horní Kvaň (field).
Thysanotos siluricus (Eichwald, 1840)

Mergl (2002): Kváň (field); Kváň (pole – field).
Leptembolon insons (Barrande, 1879)
Thysanotos siluricus (Eichwald, 1840)
Orbithele maior Mergl, 1981
Acrotreta grandis Klouček, 1919
Dactylotreta prisca sp. n. (The occurrence of this species, which ranges from the Třenice to the Klabava Formation, cannot be proved based on the list in that paper at this locality where all these formations are in succession. However, the specimen figured herein on Pl. 1, fig. 12 proves the occurrence of this species at the locality.)
Siphonotretella filipi sp. n.
Petrocrania caputium sp. n.

Mergl (2006): Kvaň; Zaječov (part Kvaň), small hill SW of the village; Kvaň (field).
Geragnostus peki (Mergl, 1984)
Hemibarrandia klouceki sp. n.
Agerina clymene sp. n.
Holoubkovia klouceki (Růžička, 1926)
Anacheirurus nanus (Mergl, 1984)
Parapilekia olesnaensis (Růžička, 1935)
Parabathycheilus vagans Mergl, 1984
Holoubkocheilus asopus sp. n.
Ceratopyge mareki Mergl, 1984
Dikelokephalina ulrichi Růžička, 1935
Holubaspis perneri (Růžička, 1926)
Apatokephalus dagmarae Mergl, 1984
Platypeltoides perseis sp. n.
Celdometopus klouceki (Vaněk, 1965)
Harpides grimmi Barrande, 1872
Jivinella incola
Orbithele
Leptembolon

Mergl & Prokop (2006): Horní Kvaň; Horní Kvaň, slope debris on a low ridge south of the village.
Macrocystella cf. *greylingi* Hammann et Sdzuy, 2001 (mentioned also as *Macrocystella* cf. *greyilingi* in fig. 3)
Echinosphaerites sp.
Paleosphaeronites grossularia sp. nov.
Pyrocystites sp.

Mergl (2010): Horní Kvaň, pole [Horní Kvaň, field].
Holoubkovia klouceki (Růžička, 1926)

Mergl (2011a): Horní Kvaň.
Poramborthis klouceki Havlíček, 1949

Updated list of fauna:
Cyathophycus sp.
Mimospira sp.

Leptembolon insons (Barrande, 1879)
Thysanotos siluricus (Eichwald, 1840)
Orbithele maior Mergl, 1981
Dactylotreta prisca Mergl, 2002
Acrotreta grandis Klouček, 1919
Siphonotretella filipi Mergl, 2002
Petrocrania caputium Mergl, 2002
Jivinella incola (Barrande, 1879)
Poramborthis klouceki Havlíček, 1949
Poramborthis vonhorstigi Villas, 2001
Kvania kvanica (Mergl, 1984)
Neptunagnostella peki (Mergl, 1984)
Hemibarrandia klouceki Mergl, 2006
Agerina clymene Mergl, 2006
Holoubkovia klouceki (Růžička, 1926)
Anacheirurus nanus (Mergl, 1984)
Parapilekia olesnaensis (Růžička, 1935)
Parabathycheilus vagans Mergl, 1984
Holoubkocheilus asopus Mergl, 2006
Ceratopyge mareki Mergl, 1984
Dikelokephalina ulrichi Růžička, 1935
Holubaspis perneri (Růžička, 1926)
Apatokephalus dagmarae Mergl, 1984
Platypeltoides perseis Mergl, 2006
Celdometopus klouceki (Vaněk, 1965)
Harpides grimmi Barrande, 1872
Macrocystella cf. *greylingi* Hammann et Sdzuy, 2001
Echinosphaerites sp.
Paleosphaeronites grossularia Mergl et Prokop, 2006
Pyrocystites sp.

Hostomice – Babí štola Gallery

Geography: Probe gallery inside the south-western slope of the Studený vrch Hill, ~ 3.5 km south-east from the centre of the village Hostomice. Cadastre of Dobříš, District of Příbram.
Lithology: Cherts, shales, sandy shales, sandstones.

Bouček, B. (1944): "Babí štola".
Obolus complexus Barr.
Lingula sp. (drobná, asi *Lingulella insons* (Barr.)) [minute, probably Lingulella insons (Barr.)]
malý druh r. *Obolus* Eichw. [small species of the genus Obolus Eichw.]
jehlice hub [sponge spicules]

Updated list of fauna:
undetermined sponges
? *Leptembolon insons* (Barrande, 1879)

Hostomice – Písek Hill

Geography: Southern slope of Písek Hill (elevation point 691 m) about 4.8 km SSW of the church in Hostomice and 4 km ESE of the castle in Jince. Cadastre of Čenkov u Příbramě, District of Příbram.
Lithology: Cherts.

? Feistmantel (1880): Der Berg Baba [Baba Hill]; Baba. (This reference is placed to the locality Hostomice – Písek Hill because a low range descends from the top of the Písek Hill north-eastwards and two indistinct summits are called Velká Baba and Malá Baba, the former more noticable. Cadastre of Hostomice, District of Beroun. Thus, the Baba Hill locality is considered to represent a southern slope of that low range with the main summit of Velká Baba as a continuation of Písek Hill. On the other hand, the name Baba is also related to some place on the slope of Studený vrch Hill with historical mining.)
Lingula
eine kleine *Obolus*-Art [small species of *Obolus*]

Kettner (1916b): Písek (668) u Hostomic [Písek Hill (elevation point 668 m) near Hostomice]; jižní svah Písku [southern slope of Písek Hill].
jehlice houbové [sponge spicules]

Updated list of fauna:
undetermined sponges

Jívina – quarries

Geography: Abandoned quarries in a now wooded area along the road from the village of Jívina to the town of Komárov, some 800 m north-north-east of the center of Jívina. (Coordinates of the main quarry with the Mílina Formation read from map: N 49° 47' 56.5" E 13° 50' 17.0"). Cadastre of Jívina, District of Beroun.
Lithology: Cherts.
Remark: The fossiliferous Třenice Formation also occurs at this locality. For details see Kraft *et al.* (2013, p. 51–52).

Kettner (1916a): Profil Komárov – Jívina [Komárov – Jívina section]; lomy v nejbližším okolí místa, kde silnice z Komárova se sev. od Jíviny obrací náhle k jihu [quarries in the close vicinity of the point north of Jívina where the road from Komárov sharply turns to the south].
jehličky houbové, jehlice houbové [sponge spicules]

Orthis sp. Barr.
Barroisella insons Barr.
Discina undulosa Barr.

Koliha (1924): Komárov-Jivina.
Lingulella insons (Barr.)

Koliha (1930a): Jívina.
Billingsela incola, (Barr.) mut. praec.
Obolus siluricus prima (Klou.)

Koliha (1930b): Jívina.
Billingsela incola (Barr.) mut. praec.
Obolus siluricus prima (Klou.)

Klouček (1931a): Jívina.
Obolus complexus?, menší forma [smaller form]
Obolus cf. *Feistmanteli*, menší forma, odpovídající témuž druhu z Ouzkého [smaller form corresponding to the same species from Ouzký]
Orthis Slavíki Klou.

Klouček (1931b): Jívina.
Obolus complexus? Barr., petite forme [small form]
Obolus cf. *Feistmanteli*, petite forme rappelant celle de Ouzký [small form resembling that from Ouzký]
Orthis Slavíki Klou.

Havlíček (1977): Jívina, quarry near the village.
Jivinella incola (Barrande, 1879)

Mergl (2002): Jivina (old quarries); Jivina (staré lomy – old quarries).
Leptembolon insons (Barrande, 1879)
Dactylotreta prisca sp. n.
(The occurrence of both species, which range from the Třenice to the Klabava Formation, cannot be proved based on the lists in that paper at this locality where all these formations are in succession.)

Updated list of fauna:
undetermined sponges
Leptembolon insons (Barrande, 1879)
Dactylotreta prisca Mergl, 2002
Jivinella incola (Barrande, 1879)
Jivinella slaviki (Klouček, 1915)

Jívina Hill

Geography: Natural exposures and slope debris on the east slope and the top of the Jívina Hill, south-west and south of the village of Jívina. Cadastre of Jívina, District of Beroun.
Lithology: Cherts.
Remarks: The fossiliferous Třenice Formation also occurs at this locality. For details see Kraft *et al.* (2013, p. 52).

Kraft (1928): Jívina – Komárov.
Baroisella insons
Orbiculoidea undulosa Barr.
Obolus complexus
Acrotreta minima
jehlice hub [sponge spicules]

Havlíček (1949): Jívina.
Jivinella incola (Barrande, 1879)
Poramborthis kloučeki n. sp.

Havlíček (1951): Jívina.
Jivinella incola (Barrande, 1879)
Poramborthis kloučeki Havlíček, 1949

Mergl (2002): Jivina (Jivina Hill).
Leptembolon insons (Barrande, 1879) (The occurrence of this species, which ranges from the Třenice to the Klabava Formation, cannot be proved based on the list in that paper at this locality where all these formations are in succession.)
Orbithele maior Mergl, 1981

Updated list of fauna:
undetermined sponges
Leptembolon insons (Barrande, 1879)
Orbithele maior Mergl, 1981
Jivinella incola (Barrande, 1879)
Poramborthis klouceki, Havlíček, 1949

Kleštěnice – Jalový potok Brook

Geography: Natural exposures on the steep slope on the right bank (i.e. east the stream) of the Jalový potok Brook near the village of Kleštěnice, ~ 1.3 km south-west of the castle in Komárov. Cadastre of Kleštěnice, District of Beroun.
Lithology: Cherts.
Remarks: The fossiliferous Třenice Formation also occurs at this locality. For details see Kraft *et al.* (2013, p. 52).

Mergl (1986): Komárov.
Leptembolon insons insons
Orbithele maior
Conotreta turricula
Jivinella incola

Mergl (2002): Kleštěnice (section along the Jalový potok creek); Komárov (section along the Jalový potok creek); Kleštěnice (profil podél Jalového potoka – section along the Jalový potok creek).
Leptembolon insons (Barrande, 1879) (The occurrence of this species, which ranges from the Třenice to the Klabava Formation, cannot be proved based on the list in that paper at this locality where all these formations are in succession.)
Orbithele maior Mergl, 1981
Dactylotreta prisca sp. n. (The occurrence of this species, which ranges from the Třenice to the Klabava Formation, cannot be proved based on the list in that paper at this locality where all these formations are in succession.)

Updated list of fauna:
Leptembolon insons (Barrande, 1879)
Orbithele maior Mergl, 1981
Dactylotreta prisca Mergl, 2002
Jivinella incola (Barrande, 1879)

Komárov

Geography: A cumulative name for localities in surroundings of the town of Komárov, usually unspecified. In one case, an exact place near Komárov, which cannot be related to any other locality or fossil record, is placed on the list. District of Beroun.
Lithology: Cherts.

Jahn (1904a): Jjz od Komárova u coty 400 (1 : 25,000) ... v úhlu zatáčky... silnice ... ve větším lomu [SSW of Komárov near the elevation point 400 m (1 : 25,000) ... in the road curve ... in a larger quarry]; u coty 400 jjz. od Komárova [near the elevation point 400 m SSW of Komárov]. (Note that the site is related to the elevation point in the map of the 3rd Military Survey.)
Pyritonema Feistmanteli Poč. (= *Acanthospongia siluriensis* M'Coy K. Feistmantelova), nebo *Pyritonema Barrandei* Poč., nebo *Protospongia Nováki* Poč. (*Protospongia fenestrata* Salt.), anebo jiné jehlice hub [*Pyritonema Feistmanteli* Poč. (= *Acanthospongia siluriensis* M'Coy in sense of K. Feistmantel) or *Pyritonema Barrandei* Poč. or *Protospongia Nováki* Poč. (*Protospongia fenestrata* Salt.) or other sponge spicules]

Jahn (1904b): Südsüdwestlich von Komorau bei der Kote 400 (1 : 25.000) ...die Straße ... in dem Winkel dieser Biegung ... ein Aufschluß [SSW of Komorau near the elevation point 400 m (1 : 25,000) ... in the road curve ... in an exposure]; bei der Kote 400 südsüdwestlich Komorau [near the elevation point 400 m SSW of Komárov]. (The same remark as seen above.)
Pyritonema Feistmanteli Poč. (*Acanthospongia siluriensis* M. Coy. bei K. Feistmantel), *P. Barrandei* Poč., *Protospongia* Nováki Poč. (*Protospongia fenestrata* Salt.), oder ähnlichen Spongiennadeln [The same translation as in Jahn 1904a.]

Koliha (1924): Komárov.
Obolus Kloučeki Koliha

Havlíček (1949): Komárov.
Jivinella incola (Barrande, 1879)

Havlíček (1951): Komárov.
Jivinella incola (Barrande, 1879)

Havlíček (1977): Komárov.
Jivinella incola (Barrande, 1879)

Mergl (1984): Komárov.
Jivinella incola (Barrande, 1879)

Updated list of fauna:
undetermined sponges
Jivinella incola (Barrande, 1879)

Mílina Hill

Geography: Abandoned quarries on the top and the western and north-western slope of the Mílina Hill, ~ 1.2 km south of the chapel in the village of Olešná. Cadastre of Olešná, District of Beroun.
Lithology: Cherts, siltstones.
Remarks: C. Klouček in his field diary described and illustrated a section of the upper part of the Mílina Formation and the lowest beds of the Olešná Member of the Klabava Formation in the quarry at Mílina Hill. He noted the presence of trilobite fragments in a chert with *Jivinella incola* at two sites (Fig. 2). The trilobites were not observed by new sampling done between 1980 to 2010, although the bed with the index fossil *Jivinella incola* associated with *Poramborthis klouceki* was observed. The presence of trilobites from the Mílina hill quarries is somewhat uncertain, because no trilobite specimen with the locality label Mílina was observed among trilobites in the collection of C. Klouček stored in the National Museum at Prague.

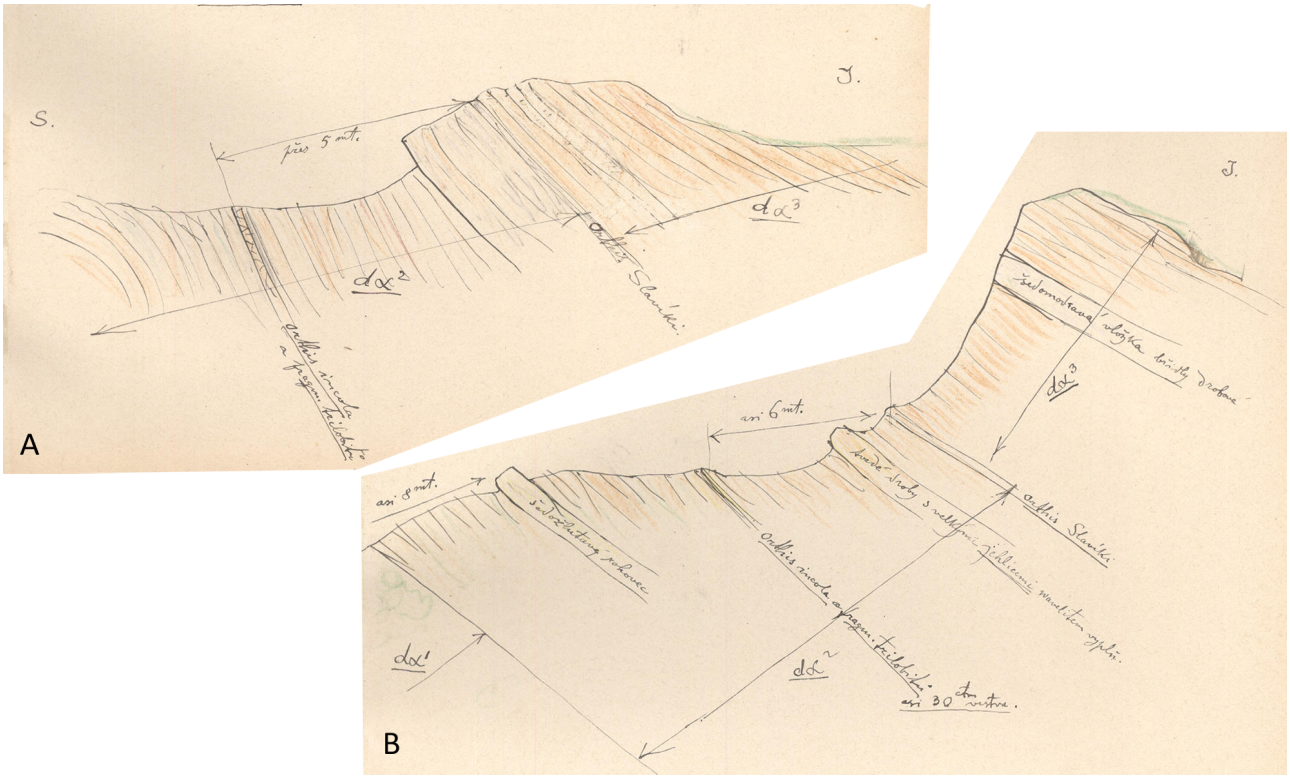

Figure 2. *Drawings of the quarries in Mílina hill by C. Klouček, made in his field diary around 1925. Top picture (A) is section of the NW quarry marked level with Jivinella incola and trilobites. Lower picture is a section of the SE quarry. Abbreviation "dα2" refers the upper part of the Mílina Formation.*

Klouček (1915a): Mílina.
Orthis slaviki Klouček n. sp.
Obolella complexa Barrande (It was likely found in the Olešná Member of the Klabava Formation rather than in the Mílina Formation.)

Klouček (1917a): Mílina, s.z. lom [north-western quarry].
Barroisella insons Barr.
Orthis incola Barr.
Orthis sp.
fragmenty trilobitů [trilobite fragments]

Klouček (1917a): Jižní lom milinský [southern quarry in Milina].
Orthis incola Barr.

Klouček (1917b): Milina.
Conularia robusta Barr.

Koliha (1924): Milina.
Lingulella insons (Barr.)

(One figured specimen of *Obolus* (*Lingulobolus*) *Feistmanteli* (Barr.) var. *Barrande*i (Klouček) is referred to the locality Milina; its origin from the Mílina Formation is, however, unclear.)

Klouček (1925): Mílina.
The author referred to the particular taxa, mentioned on the list of fauna found at Ouzký near Holoubkov (in the Třenice Formation), found also at Mílina. However, these references seem to show to a stratigraphic mixture, are not unequivocal as some species are not clearly mentioned, and the references are common for more than this single locality.

Bouček (1928): Milina.
Conularia insignis Barr. (emend aut.)

Havlíček (1949): Mílina; Milina.
Jivinella incola (Barrande, 1879)
Jivinella slavíki (Klouček, 1915)

Havlíček (1951): Mílina.
Jivinella incola (Barrande, 1879)
Jivinella slavíki (Klouček, 1915)

Vaněk (1965): Mílina; Mílina bei Olešná [Mílina near Olešná]. (Mílina-Gipfel discussed below.)
Geragnostus bavaricus (Barrande 1868)
Leiagnostus franconicus Sdzuy 1955
Proteuloma geinitzi (Barrande 1868)
Holubaspis perneri (Růžička 1926)
Niobella innotata (Barrande 1868)
Hemibarrandia holoubkovensis (Růžička 1926)
Dikelokephalina ulrichi Růžička 1935
Leimitzia bavarica (Barrande 1868) (The occurrence of this species, the only one related to the site called in that paper as Mílina-Gipfel [hilltop], is very doubtful and this datum is unlikely.)
Pilekia olesnaensis (Růžička 1935)
Eulomina mitrata (Růžička 1926)
Platylichas klouceki (Růžička 1926)
(In general, all data on trilobites at that locality are doubtful.)

Havlíček (1977): Mílina Hill near Olešná.
Jivinella incola (Barrande, 1879)

Pek (1977): Mílina; Mílina near Komárov.
Geragnostus bavaricus (Barrande, 1868)
Leiagnostus franconicus Sdzuy, 1955

Mergl (1981): Mílina.
Orbithele maior sp. n.

Mergl (1984): Mílina.
Poramborthis klouceki Havlíček, 1949
Jivinella incola (Barrande, 1879)

Mergl (1986): Mílina.
Leptembolon insons insons
Thysanotos siluricus
Orbithele maior
Conotreta turricula
Jivinella incola
Poramborthis klouceki
Nothorthis kvanica
trilobites
echinoderms

Mergl (1997a): Mílina.
Thysanotos siluricus (Eichwald, 1840)

Mergl (2002): Mílina Hill; Mílina (quarry); Mílina (Mílina Hill).
Leptembolon insons (Barrande, 1879) (The occurrence of this species, which ranges from the Třenice to the Klabava Formation, cannot be proved based on the list in that paper at this locality where the Mílina and Klabava formations are in succession.)
Thysanotos siluricus (Eichwald, 1840)
Orbithele maior Mergl, 1981
Dactylotreta prisca sp. n. (The occurrence of this species, which ranges from the Třenice to the Klabava Formation, cannot be proved based on the list in that paper at this locality where the Mílina and Klabava formations are in succession.)

Mergl (2006): Mílina (quarry).
Jivinella incola
Poramborthis klouceki

Updated list of fauna:
Leptembolon insons (Barrande, 1879)
Thysanotos siluricus (Eichwald, 1840)
Orbithele maior Mergl, 1981
Dactylotreta prisca Mergl, 2002
Jivinella incola (Barrande, 1879)
Jivinella slaviki (Klouček, 1915)
Poramborthis klouceki Havlíček, 1949

Olešná – quarry

Geography: Old, abandoned quarry in the small wooded area along the eastern side of the Olešná – Komárov road, 350 m north-north-east of the chapel on the village of Olešná. . (Coordinates read from map: N 49° 47' 06.0" E 13° 48' 52.0"). Cadastre of Olešná, District of Beroun.
Lithology: Cherts, fine-grained lithic sandstones.
Remarks: Celda Klouček observed a rich fauna in a small quarry NE from Olešná village in August, 1914. There were two quarries, active in the early 20th century, but both were abandoned, partly filled with waste material, and subsequently, since the Second War naturally covered by vegetation. Detailed data about the geological situation were published by Kettner (1916a). Trilobite sampling sites were exactly located by C. Klouček in his manuscript diary. The NE quarry (the second quarry by C. Klouček) was the original site where chert with *Jivinella incola* and trilobites were observed. The several subvertically dipping, about 50 cm-thick beds of red and yellow cherts in NW branch of the anticline were the main sampling site of C. Klouček. He noted, that the same

sequence of chert beds is exposed also in the NE branch of the anticline, but the beds were devoid of trilobites and yielded only the poorly preserved eoorthid *Jivinella incola*. Only a thick bed of grey chert in the NE limb of the anticline is exposed at the present time.

The SW quarry (the first quarry of C. Klouček) exposed several subvertical chert beds in the main, SE wall of the quarry. Klouček noted that the chert bed with trilobites was poorly accessible even in his time, but that the preservation and abundance were favourable. Several trilobite beds were excavated after 1977, with the main sampling activity between 1978 and 1980, and subsequently, in 2002 to 2005. The trilobite-bearing beds were exploited in a trench about 15 m long and more that 1 m deep, following the strike of the chert. The beds are subvertical, slightly dipping to the SW tracing the NW branch of the anticline. The preservation of fossils is less favourable than in chert beds in the NE quarry. Most of the data concerning trilobites of the Mílina Formation came from this new trench. The trilobite-bearing beds are naturally protected by a thick bed of grey chert which forms the natural SE wall of the quarry. The quarry was filled with waste material between 1980 and 2000, and was subsequently covered by soil to 2–3 m high, but the trilobite-bearing bed remained accessible up to the present time in a quarry wall. The chert beds are red-brown coloured, with usually poorly preserved fossils having a thin cover of yellowish soft limonitic layer. However, some beds of fine chert yielded perfect, three dimensionally preserved trilobites. Considerable breakage of trilobite shields, compression, and taphonomic and diagenetic loss of fossils are evident.

A historical photo and drawing of the NE quarry were published by Kettner (1916a, 1916b). It was taken around 1915. Celda Klouček draw two sections in quarries around 1925 year (Fig. 3). A photo of the trench in the centre of the wall of the SW quarry is dated 1979 (Fig. 4). There are distinct several trilobite-bearing beds of red chert. At that time the trilobite-bearing bed was easily accessible for fossil sampling. At present, the same beds are situated much deeper at the bottom of the abandoned trench. The chert is tectonically affected and the preservation of fossil in this less weathered chert is less favourable.

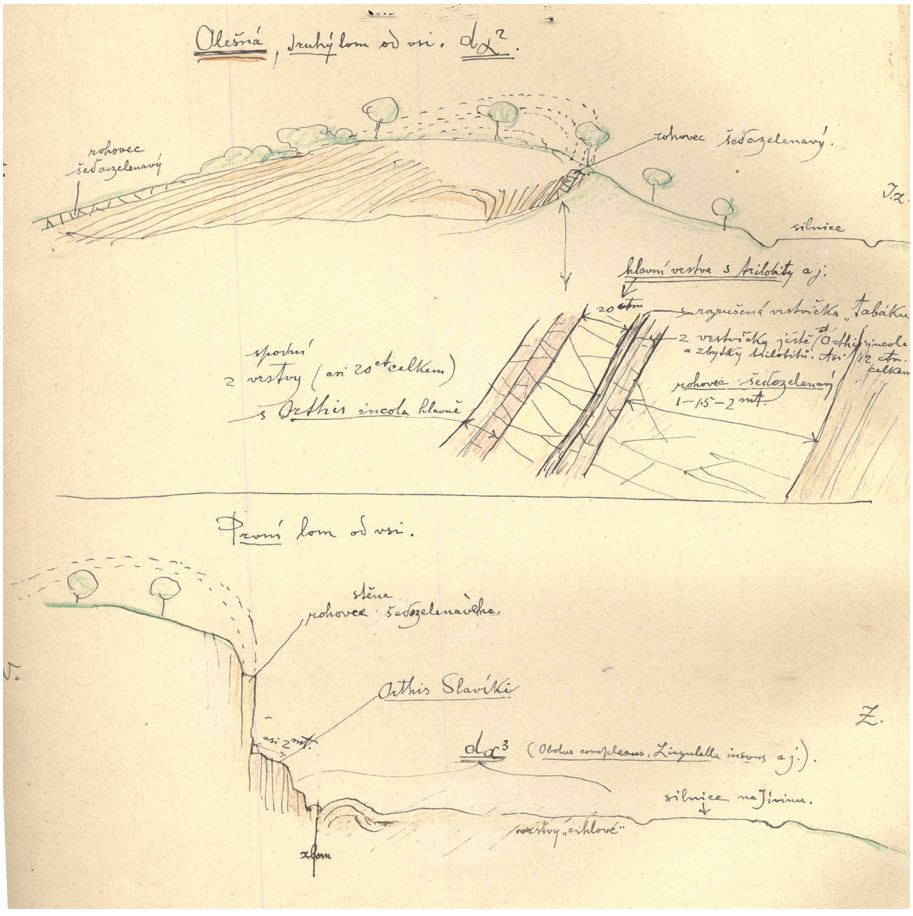

Figure 3. *Drawings of the quarries in Olešná by C. Klouček, made in his field diary around 1925. The top picture is the shape of the NE quarry ("druhý lom od vsi") with enlarged detail of the trilobite-bearing bed. The lower picture is suggested to be a section by the SW quarry ("první lom od vsi"); note the quarry wall formed by a thick bed of grey chert and the bottom of the quarry formed by red siltstones of the Olešná Member of the Klabava Formation (abbreviation "dα3").*

Figure 4. *Photograph of the NE quarry in Olešná, the original sampling site of C. Klouček (according to Kettner 1916a). The trilobite-bearing beds are in the right (SW) end of the quarry wall.*

Klouček (1914a): It unambiguously follows from the text that the author knew the locality but he avoided to mention or locate it, apparently to protect this information. However, it is clear that it is Olešná from the context, description of the lithology, and, especially, from the reference in Klouček (1915a, 1915b).
Asaphid
Cheirurid
Olenid
[based on fragments the author estimated at least 8 trilobite species]
Orthis incola Barr.
2 nové *Orthis* [2 new species of *Orthis*]
několik různých Discin [several different species of *Discina*]
nové Obolelly [several new species of *Obolella*]
Linguly [several *Lingula*]
nová Cystidea [new Cystidea]
jehlice hub [sponge spicules]

Klouček (1914b): The same case in the German version as above in the Czech one.
Orthis incola Barr.
[the trilobite remains represent approximately 8 different species; the following are among them:]
Oleniden
Asaphiden
Cheiruriden

Klouček (1915a): Olešná.
Orthis incola Barr.
fragmenty trilobitů [trilobite fragments]
Orthis Slavíki Kl. n. sp.
Obolella complexa Barr. (It was likely found in the Olešná Member of the Klabava Formation rather than in the Mílina Formation.)

Klouček (1915b): Ein Steinbruch bei Olešná [a quarry near Olešná].
Orthis incola Barr
2 Oleniden [2 olenids]
Cheiruriden [cheirurid]
Asaphiden [asaphid]
[based on fragments the author estimated some 8 trilobite species]

Kettner (1916a): Olešná; východnější lom u Olešné [eastward quarry near Olešná].

Orthis incola Barr.
zbytky trilobitů [trilobite remains]
Acrotreta n. sp.
Obolus minimus Barr.
jehlice hub, jež nejblíže odpovídají asi druhu *Pyritonema Feistmanteli* Počta [sponge spicules, most closely related probably to the species *Pyritonema Feistmanteli* Počta] also mentioned only as jehlice hub [sponge spicules]
Barroisella insons Barr.
Discina undulosa Barr.

Klouček (1917a): Olešná.
Orthis sp.
Olenid I. n. sp.
Olenid II. n. sp.
Euloma?
Cheirurus I. n. sp.
Cheirurus II. n. sp.
Amphion n. sp.
Niobe n. sp.?
Nileus n. sp.?
Megalaspis? n. sp.
Barrandia-Symphysurus? n. sp.
Lichas n. sp.
Orthis incola Barr.
Orthis n. sp. Jemné lamelly i rýhy soustředné, velikost jako u *Orthis incola* [fine lamellae and concentric grooves, the same size as *Orthis incola*]
Obolella n. sp. Trojhranná, širší než dlouhá, velikosti jako *Obolella Feistmanteli* Barr. [Triangular, wider than long, of the same size as *Obolella Feistmanteli* Barr.]
Obolus minimus Barr.
Barroisella insons Barr.
Discina undulosa Barr. (přechodní tvar z *Discina sodalis* Barr.) [transitional type from *Discina sodalis* Barr)]
Acrotreta n. sp.?
Echinosphaerites? n. sp.
Pyrocystites? n. sp.
jehlice hub [sponge spicules]

Klouček (1920b): Olešná u Komárova.
část glabely nové asi Ptychoparie [part of glabella of a probably new *Ptychoparia*]

Klouček (1921): Steinbruch bei Olešná; Steinbruch von Olešná [both of the same meaning: quarry near Olešná].
Orthis incola mentioned also as *Orthis* (*Billingsella*) *incola* Barr.
einige neue Brachiopoden, Cystideen und Trilobiten [new brachiopods, cystoids and trilobites]
Niobe
Megalaspides
Symphysurus (*„Hemibarrandia“*)
Nileus
Lichas
Cheirurus I (*Cyrtometopus* ?)
Cheirurus II
Amphion
4 Oleniden [olenids]
Euloma
Ptychoparia ?

Klouček (1922c): Lom na štěrk u Olešné [grit quarry near Olešná].
11–12 druhů nových trilobitů [11–12 new trilobite species]
Orthis incola Barr.
noví brachiopodi [new brachiopods]

Koliha (1924): Olešná.
Obolus (*Lingulobolus*) *Feistmanteli* (Barr.) var. *Barrandei* (Klouček)
Lingulella insons (Barr.)
Acrotreta minima (Barr.)
Orbiculoidea sodalis var. *undulosa* (Barr.)
Billingsella incola (Barr.)

Klouček (1925): Olešná.
The author referred to the particular taxa, mentioned in the list of fauna found at Ouzký near Holoubkov (in the Třenice Formation), found also at Olešná. However, these references seem to show to a stratigraphic mixture, are not unequivocal as some species are not clearly mentioned, and the references are common for more than this single locality.

? Kraft (1928): Olešná (za Olešnou po pravé straně silinice do Jiviny, na svahu vršku /k. 510/, opuštěný lom bližší obci) [behind Olešná, right from the road to Jivina, on the slope of the hill (elevation point 510 m), abandoned quarry closer to the village].
Baroisella insons
Orbiculoidea undulosa
Obolus complexus
jehlice hub několik cm dlouhé [several centimetres-long sponge spicules]

Kraft (1928): Olešná (za Olešnou po pravé straně silinice do Jiviny, na svahu vršku /k. 510/, lom severnější) [behind Olešná, right from the road to Jivina, on the slope of the hill (elevation point 510 m), northern quarry].
Cheirurus
Amphion
Olenit
Nileus
Symphysurus
Niobe
Lichas
Megalaspis n.sp.
Orthis incola
Obolus
Lingulella
Orbiculoidea
jehlice hub [sponge spicules]

Heritsch (1928): Olešná.
Oleniden [olenids]
Euloma
Cheirurus
Amphion
Lichas
Symphysurus
Apatocephalus
Parabolinella
Niobe

Klouček (1931a): Olešná.
Dicelocephalina dicreura Ang.
euloma à la Ouzký [*Euloma* resembling that from Ouzký]

Klouček (1931b): Olešna.
Dicellocephalina cf. *dicreura* ? Ang.
Euloma rappelant la forme de Ouzký [*Euloma* resembling the form from Ouzký]

Klouček (1931c): Olešná; lomy u Olešné [quarries near Olešná].
Orthis incola Barr.
Agnostus aff. *bavaricus* Barr.
Apatocephalus aff. *serratus* (Sars et Boeck) mentioned also as *Apatocephalus* aff. *serratus* (Sars. et Boeck)
Euloma cf. *ornatum* Ang.
Euloma sp. à la Ouzký
Harpides sp. (cf. *grimmi* Barr.?) mentioned also as *Harpides* sp. (cf. *Grimmi* Barr.?)
Orometopus aff. *elatifrons* (Ang.)
Orometopus aff. *praenuntius* (Salter) mentioned also as *Orometopus* aff. *praenuntin*s (Salter)
Holubia bohemica n. g. n. sp.

Klouček (1931d): Olešná; carriere d'Olešná [quarries near Olešná].
Orthis incola Barr.
Agnostus aff. *bavaricus* Barr.
Apatocephalus aff. *serratus* (Sars et Boeck)
Euloma cf. *ornatum* Ang.
Euloma sp. reppelant l' espèce de Ouzký [*Euloma* sp. resembling that from Ouzký]
Harpides sp. (cf. *grimmi* Barr.?) mentioned also as *Harpides* sp. (cf. *Grimmi* Barr.?)
Orometopus aff. *elatifrons* (Ang.) mentioned also as *Orometopus* aff. *elatiformis* (Salter)
Orometopus aff. *praenuntius* (Salter)
Holubia bohemica n. g. n. sp.

Růžička (1935a, 1935b): Olešná.
Cyrtometopus olešnaensis n. sp.
Dicellocephalina ulrichi n. sp.
4 Olenidi (z nichž jeden uveden Kloučkem novým rodovým označením *Holubia* – ... 1931) (of which one is given by Klouček, as a new genus *Holubia* – in ... 1931) [4 olenids; Czech text from Růžička (1935a) and the English original translation from Růžička (1935b)]
Euloma (3 druhy) [3 species]
Agnostus (2? druhy) [probably 2 species]
Apatocephalus
Orometopus
Harpides (... zdá se, že se jedná o druh odlišný od druhu *H. Grimmi* Barr.) [... it seems that this species differs from H. *Grimmi* Barr.]
Nileus
Niobe

Koliha (1937): Olešná.
Obolus (*Mickwitzella*) *Barrandei* (Klou.)
Obolus cf. *complexus* Barr.
Lingulella insons (Barr.)
Orbiculoidea sodalis undulosa (Barr.)
Acrotreta minima (Barr.)
Billingsella incola (Barr.)
Conularia sp.
Agnostus cf. *bavaricus* Barr.
Apatocephalus cf. *serratus* Sars et Boeck.)
Euloma cf. *ornatum* Ang
Harpides sp.
Orometopus aff. *olatifrons* (Ang.)

Orometopus aff. *praenuntius* (Salter)
Nileus sp.
Symphysurus bohemicus Klou.
Niobe sp.
Megalaspis sp.
Asaphellus sp.
Dicellocephalina ulrichi Růž.
Cyrtometopus olešnäensis Růž.
Cheirurus sp.
Amphion sp.
Lichas sp.
Cystidées et spicules d'Eponges [cystoids and sponge spicules]

Růžička (1941): Známý lom u Olešné [a famous quarry near Olešná].
Euloma kettneri n. sp.
Euloma sp. à la Ouzký [*Euloma* resembling that from Ouzký]

Prantl & Přibyl (1947): Olešná.
Parapilekia olešnaensis (Růžička)

Havlíček (1949): Olešná.
Jivinella incola (Barrande, 1879)
Jivinella slavíki (Klouček, 1915)
Poramborthis kloučeki n. sp.

Prantl & Přibyl (1949): Olešná.
Hemibarrandia holoubkovensis (Růžička, 1926)

Havlíček (1951): Olešná.
Jivinella incola (Barrande, 1879)
Jivinella slavíki (Klouček, 1915)
Poramborthis kloučeki Havlíček, 1949

Vaněk (1959): Olešná.
Platylichas klouceki (Růžička 1926)

Vaněk (1965): Olešná; Olešna.
Geragnostus bavaricus (Barrande 1868)
Proteuloma geinitzi (Barrande 1868)
Holubaspis perneri (Růžička 1926)
Apatokephalus asarkus Sdzuy 1955
Niobella innotata (Barrande 1868)
Hemibarrandia holoubkovensis (Růžička 1926)
Dikelokephalina ulrichi Růžička 1935
Harpides grimmi Barrande 1872
Orometopus klouceki n. sp.
Pilekia olesnaensis (Růžička 1935)
Pharostomina ferentaria Sdzuy 1955
Eulomina mitrata (Růžička 1926)
Platylichas klouceki (Růžička 1926)
Curiaspis notabilis Sdzuy 1955

Horný & Bastl (1970): Olešná.
Holubaspis perneri (Ružička 1926)
Holubaspis sp. aff. *perneri* (Ružička 1926)
Eulomina mitrata (Ružička 1926)
Orometopus klouceki Vaněk, 1965
Harpides grimmi Barrande 1872
Proteuloma geinitzi (Barrande 1868)
Pilekia olesnaensis (Ružička 1935)
Apatokephalus asarkus Sdzuy 1955
Dikelokephalina ulrichi Ružička 1935

Havlíček (1977): Olešná, quarry near the village; Olešná.
Poramborthis klouceki Havlíček, 1949
Jivinella incola (Barrande, 1879)

Pek (1977): Olešná.
Geragnostus bavaricus (Barrande, 1868)

Mergl (1981): Olešná.
Orbithele maior sp. n.

Havlíček (1982a): Quarry east of Olešná; Olešná.
Thysanotos siluricus (Eichwald, 1840)
Leptembolon insons insons (Barrande, 1879)

Mergl (1984): Olešná; Olešná, the quarry E of the village.
Pyritonema feitmanteli Poč.
Thysanotos siluricus (Eichw.)
Leptembolon insons insons (Barra)
Conotreta turricula Havl.
Orbithele maior Mergl
Jivinella incola (Barrande, 1879)
Poramborthis klouceki Havlíček, 1949
Nothorthis kvanica sp. n.
Neptunagnostella peki sp. n.
Geragnostus atavus sp. n.
Parapilekia nana sp. n.
Parapilekia olesnaensis (Růžička, 1935)
Hemibarrandia holoubkovensis (Růžička, 1926)
Dikelokephalina ulrichi Růžička, 1935
Niobella sp.
Niobina ? sp.
Ceratopyge mareki sp. n.
Harpides grimmi Barrande, 1872
Orometopus klouceki Vaněk, 1965
Parabathycheilus vagans sp. n.
Eulomina sp.
Holubaspis perneri (Růžička, 1926)
Proteuloma kettneri (Růžička, 1941)
Apatokephalus dagmarae sp. n.
Paleosphaeronites sp.
Glyptosphaeronites sp.

Mergl (1986): Olešná.
Leptembolon insons insons
Orbithele maior
Thysanotos siluricus
Poramborthis klouceki
Jivinella incola
trilobites

Havlíček (1994): Olešná.
Kvania kvanica (Mergl, 1984)

Mergl (1997a): Olešná.
Thysanotos siluricus (Eichwald, 1840)

Mergl (2002): Olešná (quarry); Olešná (lom – quarry).
Leptembolon insons (Barrande, 1879) (The occurrence of this species, which ranges from the Třenice to the Klabava Formation, cannot be proved based on the list in that paper at this locality where the Mílina and Klabava formations are in succession.)
Thysanotos siluricus (Eichwald, 1840)
Orbithele maior Mergl, 1981
Dactylotreta prisca sp. n. (The occurrence of this species, which ranges from the Třenice to the Klabava Formation, cannot be proved based on the list in that paper at this locality where the Mílina and Klabava formations are in succession.)

Mergl (2006): Olešná; Olešná, the abandoned quarry E of the village; Olešná (quarry).
sponges (spicules)
organophosphatic brachiopods
Jivinella incola
Poramborthis klouceki
Thysanotos siluricus
Geragnostus peki (Mergl, 1984)
Geragnostus atavus Mergl, 1984
Hemibarrandia klouceki sp. n.
Agerina clymene sp. n.
Anacheirurus nanus (Mergl, 1984)
Parapilekia olesnaensis (Růžička, 1935)
Parabathycheilus vagans Mergl, 1984
Holoubkocheilus asopus sp. n.
Proteuloma kettneri (Růžička, 1941)
Niobina sp.
Ceratopyge mareki Mergl, 1984
Dikelokephalina ulrichi Růžička, 1935
Holubaspis perneri (Růžička, 1926)
Apatokephalus dagmarae Mergl, 1984
Pricyclopyge oceanitis sp. n.
Platypeltoides perseis sp. n.
Celdometopus klouceki (Vaněk, 1965)
Harpides grimmi Barrande, 1872
cystoids

Mergl & Prokop (2006): Olešná; Olešná, an old quarry east of the village.
Echinosphaerites sp.
Paleosphaeronites grossularia sp. nov.
Pyrocystites sp.

Fatka *et al.* (2013): Olešná.
Harpides grimmi Barrande, 1852

Updated list of fauna:
undetermined sponges
Leptembolon insons (Barrande, 1879)
Thysanotos siluricus (Eichwald, 1840)
Orbithele maior Mergl, 1981
Dactylotreta prisca Mergl, 2002
Kvania kvanica (Mergl, 1984)
Jivinella incola (Barrande, 1879)
Poramborthis klouceki Havlíček, 1949
Neptunagnostella peki (Mergl, 1984)
Geragnostus atavus Mergl, 1984
Hemibarrandia klouceki Mergl, 2006
Agerina clymene Mergl, 2006
Anacheirurus nanus (Mergl, 1984)
Parapilekia olesnaensis (Růžička, 1935)
Parabathycheilus vagans Mergl, 1984
Holoubkocheilus asopus Mergl, 2006
Proteuloma kettneri (Růžička, 1941)
Niobina sp.
Ceratopyge mareki Mergl, 1984
Dikelokephalina ulrichi Růžička, 1935
Holubaspis perneri (Růžička, 1926)
Apatokephalus dagmarae Mergl, 1984
Pricyclopyge oceanitis Mergl, 2006
Platypeltoides perseis Mergl, 2006
Celdometopus klouceki (Vaněk, 1965)
Harpides grimmi Barrande, 1872
Echinosphaerites sp.
Paleosphaeronites grossularia Mergl et Prokop, 2006
Pyrocystites sp.

Svatá Dobrotivá

Geography: Not specified locality or localities in Svatá Dobrotivá, the part of village of Zaječov. One of them is apparently Zaječov – quarry near the school building (see below) but it may include exposures near the monastery and possibly also loose boulders in the topsoil of the surrounding fields. Cadastre of Zaječov, District of Beroun.

Lithology: Cherts.

Barrande (1879): Sta. Benigna.
Lingula insons. Barr.
Orthis incola. Barr.

Katzer (1892): St. Benigna.
Orthis incola. Barr.

Jahn (1904a): Sv. Dobrotivá.
Based on a revision of type material the species of Barrande (1879) are only repeated as:
Lingula (*Barroisella*) *insons* Barr.
Orthis incola Barr.

Jahn (1904c): St. Benigna.
The same as Jahn (1904a)

Koliha (1924): Svatá Dobrotivá.
Lingulella insons (Barr.)

Havlíček (1949): Svatá Dobrotivá.
Jivinella incola (Barrande, 1879)
Poramborthis kloučeki n. sp.

Havlíček (1951): Svatá Dobrotivá.
Jivinella incola (Barrande, 1879)
Poramborthis kloučeki Havlíček, 1949

Havlíček (1977): Dobrotivá; Svatá Dobrotivá.
Poramborthis klouceki Havlíček, 1949
Jivinella incola (Barrande, 1879)

Havlíček (1982a): Zaječov (Dobrotivá); Svatá Dobrotivá.
Leptembolon insons insons (Barrande, 1879)

Mergl (1984): Zaječov – "Svatá Dobrotivá".
Jivinella incola (Barrande, 1879)

Updated list of fauna:
Leptembolon insons (Barrande, 1879)
Jivinella incola (Barrande, 1879)
Poramborthis klouceki Havlíček, 1949

Těně – west

Geography: Exposure on the top of a low, flat knoll near the Strašice – Těně dirt road, 550 m west of the chapel in the village of Těně. (GPS coordinates: N 49° 45' 03.2" E 13° 47' 11.2"). Cadastre of Těně, District of Rokycany.
Lithology: Cherts.

Mergl (1986): Těně-západ [Těně – west].
Leptembolon insons insons
Orbithele maior
Conotreta turricula

Mergl (2002): Těně (west); Těně (západ – west).
Leptembolon insons (Barrande, 1879) (The occurrence of this species, which ranges from the Třenice to the Klabava Formation, cannot be proved based on the list in that paper at this locality where the Mílina and Klabava formations are in succession.)
Orbithele maior Mergl, 1981
Dactylotreta prisca sp. n. (The occurrence of this species, which ranges from the Třenice to the Klabava Formation, cannot be proved based on the list in that paper at this locality where the Mílina and Klabava formations are in succession.)
(The occurrence of *Pidiobolus minimus* Mergl, 1995 and *Siphonotretella filipi* sp. n., which both range from the Mílina to the Klabava Formation, cannot be proved based on the list in that paper at this locality where both formations are in succession. However, their absence from the Mílina Formation at this locality can be inferred from data by Mergl (1995). In addition, it can be clarified here that both species come from the Olešná Member of the Klabava Formation at this locality.)

Updated list of fauna:
Leptembolon insons (Barrande, 1879)
Orbithele maior Mergl, 1981
Dactylotreta prisca Mergl, 2002

Těně

Geography: Not specified locality or localities near the village of Těně. Cadastre of Těně, District of Rokycany.
Lithology: Cherts.

Havlíček (1949): Těně.
Jivinella incola (Barrande, 1879)

Havlíček (1951): Těně.
Jivinella incola (Barrande, 1879)

Havlíček (1977): Těně.
Jivinella incola (Barrande, 1879)

Mergl (1984): Těně.
Jivinella incola (Barrande, 1879)

Updated list of fauna:
Jivinella incola (Barrande, 1879)

Plate I.

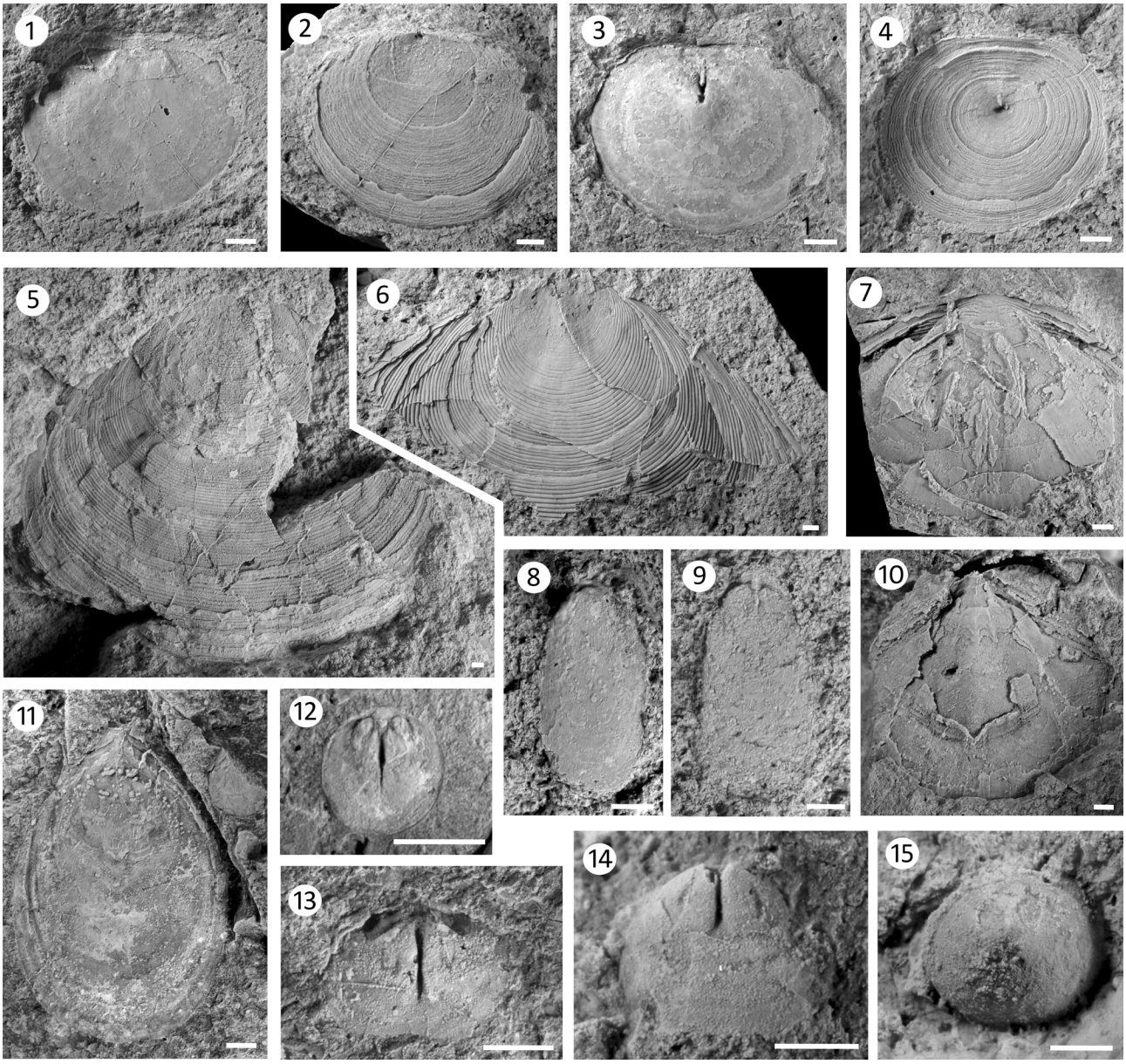

Plate 1. Lingulate and craniate brachiopods of the Mílina Formation.

1–4 – *Orbithele maior* Mergl 1981, dorsal valve interior and exterior, PCZCU 638; ventral valve interior and exterior, PCZCU 636, locality Horní Kvaň – field. 5–7, 10 – *Thysanotos siluricus* (Eichwald, 1840), dorsal valve exterior, PCZCU 1964; dorsal valve exterior, PCZCU 1965; dorsal valve interior, PCZCU 1966; ventral valve interior, PCZCU 1969; localities Olešná (5) and Horní Kvaň – field (6, 7, 10). 8, 9 – *Teneobolus bukovensis* (Koliha, 1924), dorsal valve interior, PCZCU 1967; ventral valve interior, PCZCU 1968, locality Zaječov – quarry near the school bulding. 11 – *Leptembolon insons* (Barrande, 1879), ventral valve interior, PCZCU 1970, locality Horní Kvaň – field. 12 – *Dactylotreta prisca* Mergl, 2002, dorsal valve interior, PCZCU 1971, locality Horní Kvaň – field. 13, 14 – *Acrotreta grandis* Klouček, 1919, dorsal valve interior, PCZCU 1975; ventral valve interior, PCZCU 1975, locality Horní Kvaň – field. 15 – *Petrocrania caputium* Mergl, 2002, dorsal valve interior, PCZCU 713, locality Horní Kvaň – field. Scale bars equal 1 mm.

Plate II.

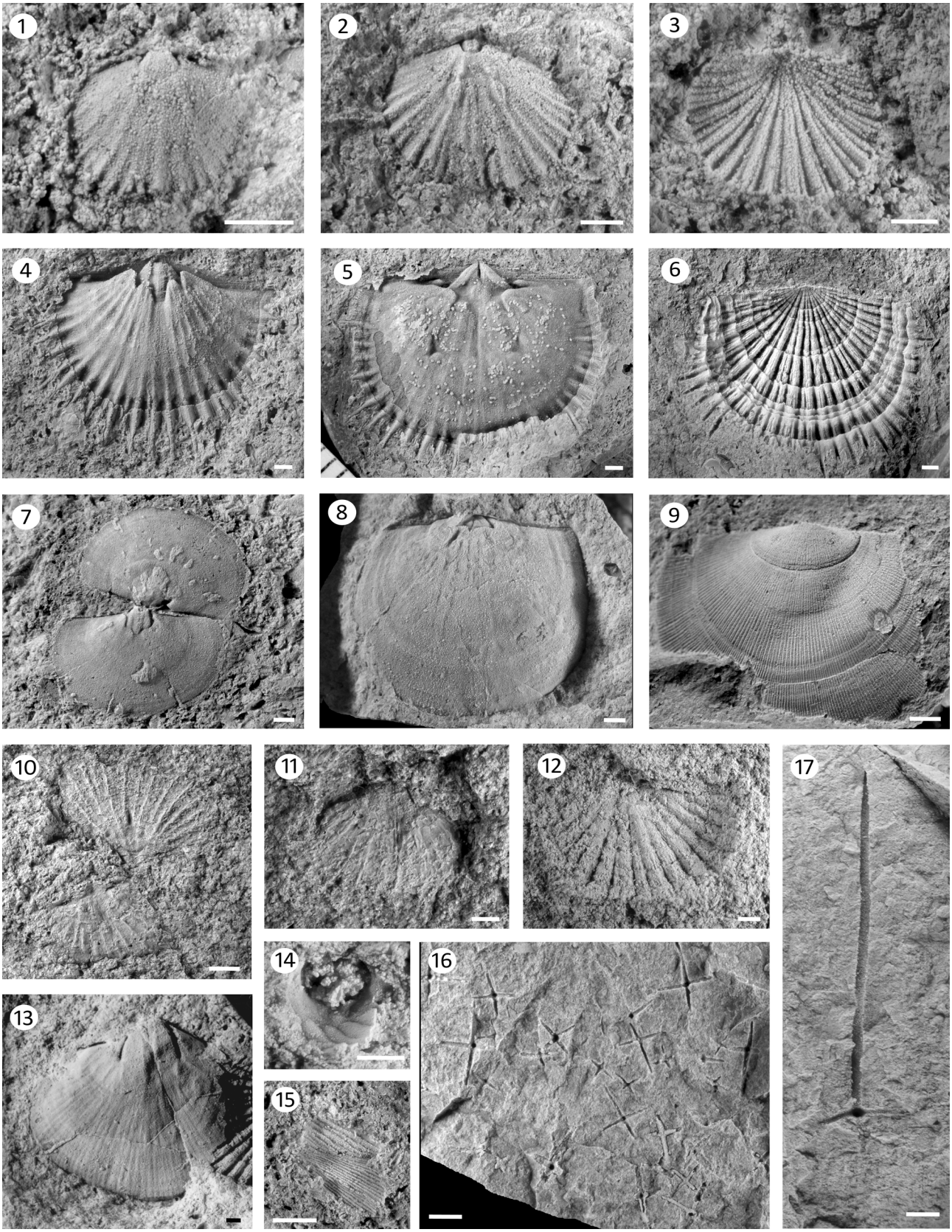

Plate III.

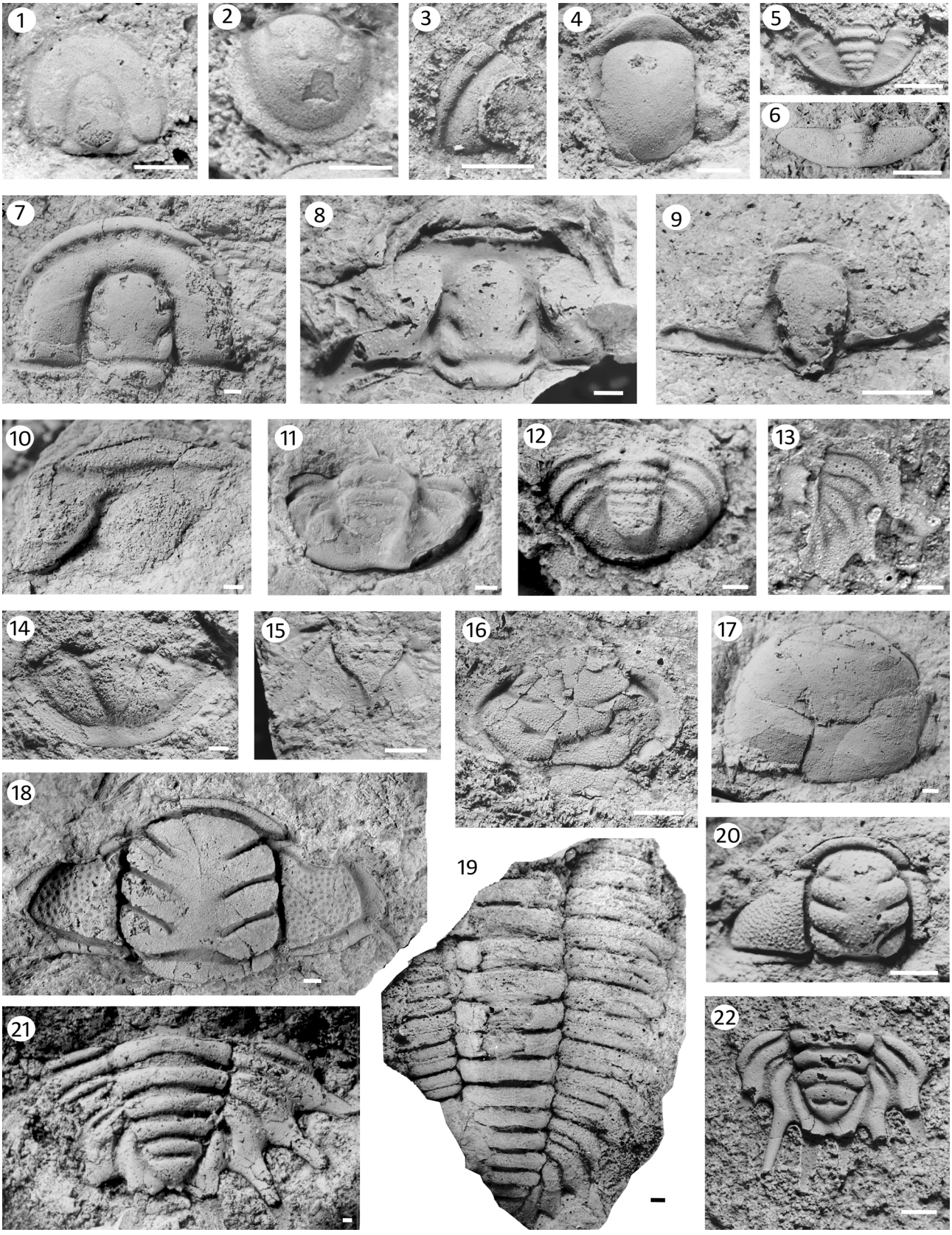

Plate IV.

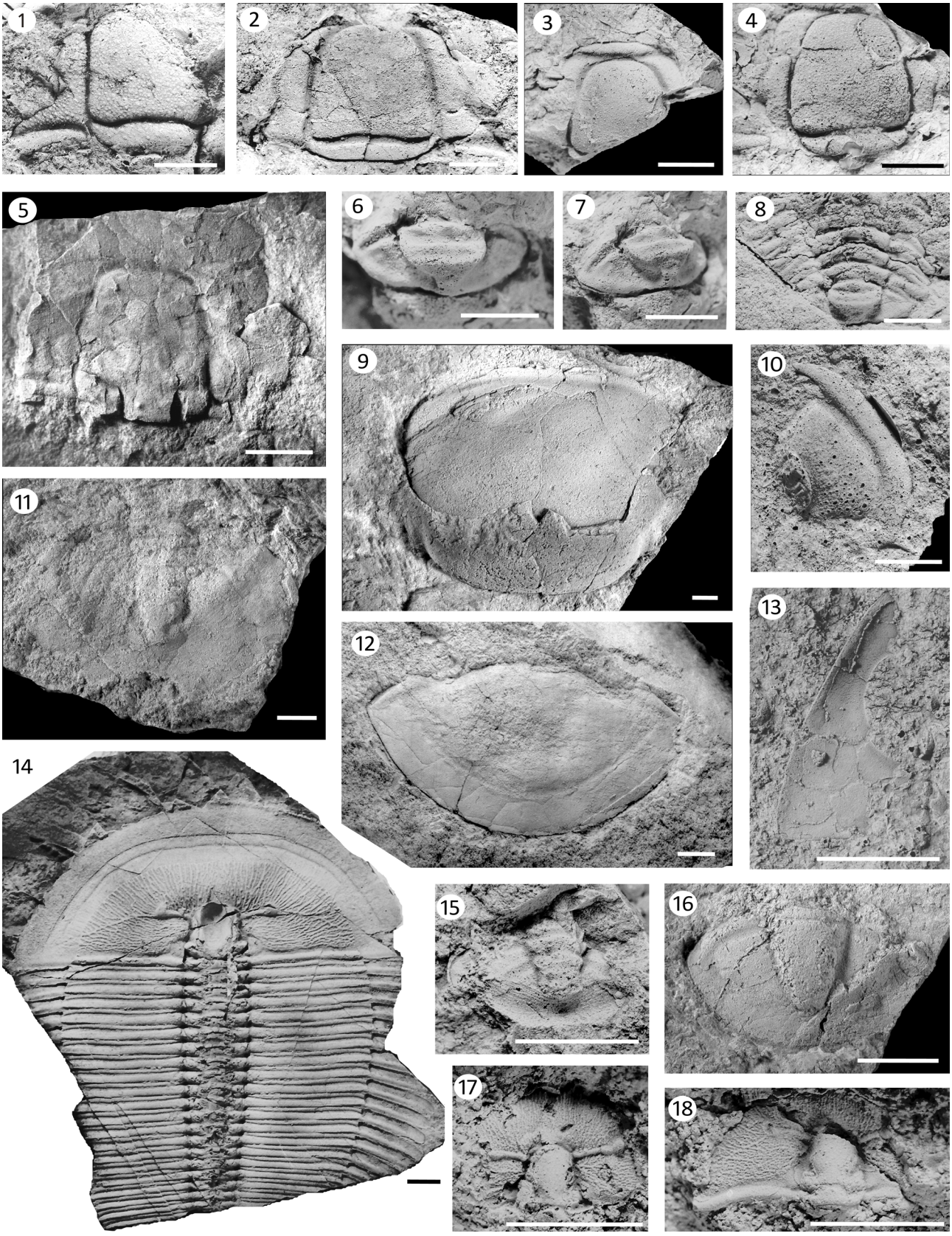

Plate V.

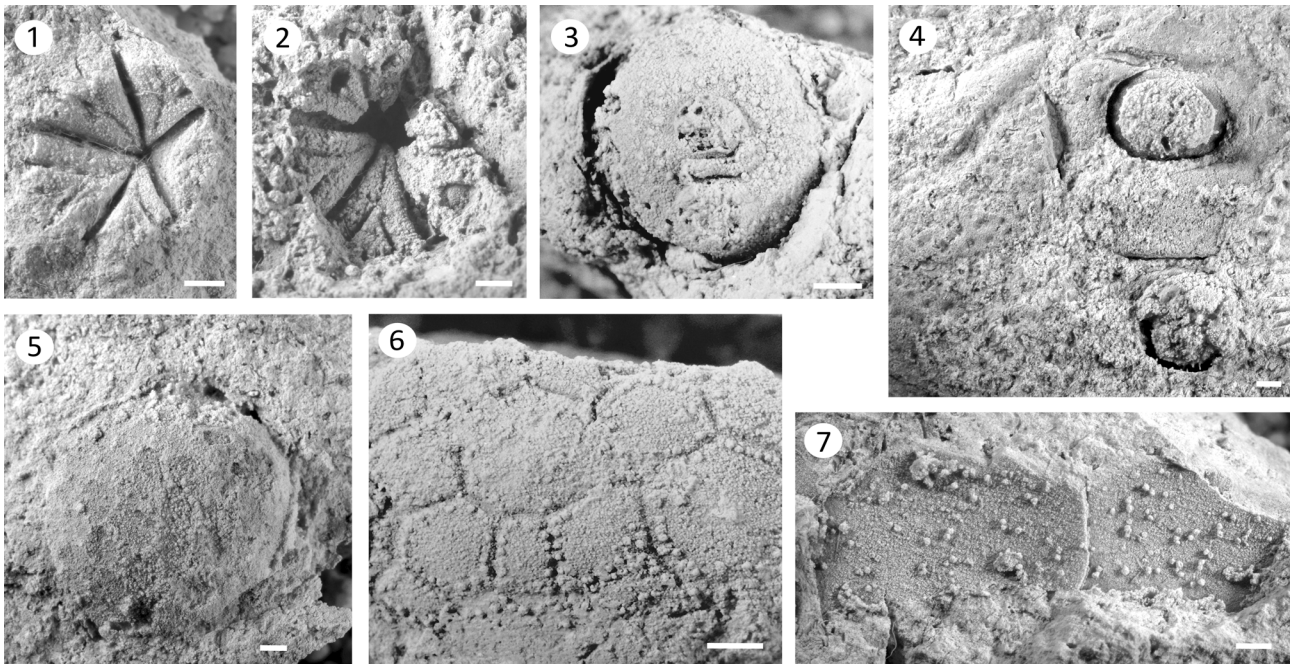

Plate 5. Echinodermates of the Mílina Formation.
1, 2 – *Macrocystella* cf. *greylingi* Hammann et Sdzuy, 2001, thecal plates, PCZCU 1506, PCZCU 1509, locality Horní Kvaň – field. 3, 4 – *Paleosphaeronites grossularia* Mergl et Prokop, 2006, theca, NM L 38004; two thecae attached to the trilobite cranidium, PCZCU 1513, localities Olešná (3) and Horní Kvaň – field (4). 5, 6 – *Echinosphaerites* sp., theca, PCZCU 1977; thecal plates, NM L 13224, localities Horní Kvaň – field (5) and Olešná (6). 7 – *Pyrocystites* sp., thecal plates, PCZCU 1505, locality Horní Kvaň – field. Scale bars equal 1 mm.

Plate 2. Rhynchonelliform brachiopods, gastropods and sponges of the Mílina Formation.
1–3 – *Kvania kvanica* (Mergl, 1984), ventral valve interior, PCZCU 1953; dorsal valve interior, PCZCU 1954; dorsal valve exterior, PCZCU 1955, locality Horní Kvaň – field. 4–6 – *Jivinella incola* (Barrande, 1879), ventral valve interior, PCZCU 1956; dorsal valve interior end exterior, PCZCU 1957, locality Horní Kvaň – field. 7–9 – *Poramborhis klouceki* Havlíček, 1949, complete shell, PCZCU 1765; dorsal valve interior, PCZCU 1799; ventral valve exterior, PCZCU 1978, locality Horní Kvaň – field. 10–12 – *Jivinella slaviki* (Klouček, 1915), two dorsal valve interiors, PCZCU 1958a; ventral valve interior, PCZCU 1958b; dorsal valve exterior, PCZCU 1959, locality Zaječov – quarry near the school bulding. 13 – *Poramborthis vonhorstigi* Villas, 2001, ventral valve interior, MM 070, locality Horní Kvaň – field. 14, 15 – *Mimospira* sp., two fragments of shells, PCZCU 1962, PCZCU 1963, locality Horní Kvaň – field. 16, 17 – *Cyathophycus* sp., a group of hexactines, PCZCU 1960; large pectactine PCZCU 1961, locality Horní Kvaň – field. Scale bars equal 1 mm.

Plate 3. Trilobites of the Mílina Formation.
1, 2 – *Neptunagnostella peki* (Mergl, 1984), cephalon, PCZCU 1600; pygidium, MM 100, locality Horní Kvaň – field. 3–5 – *Agerina clymene* Mergl, 2006, librigena, PCZCU 1560; cranidium, PCZCU 1561; pygidium, PCZCU 1562, locality Horní Kvaň – field. 6, 9 – *Celdometopus klouceki* (Vaněk, 1965), pygidium, MM 082; cranidium, PCZCU 1594, locality Olešná. 7 – *Proteuloma kettneri* (Růžička, 1941), cranidium, PCZCU 1642, locality Olešná. 8, 12 – *Parabathycheilus vagans* Mergl, 1984, cranidium, MM 102; pygidium PCZCU 1623, locality Olešná. 10, 11 – *Holoubkocheilus asopus* Mergl, 2006, cranidium, PCZCU 1627; pygidium, PCZCU 1623, localities Olešná (10) and Horní Kvaň – field (11). 13 – *Holoubkovia klouceki* (Růžička, 1926), pygidium, PCZCU 2001, locality Horní Kvaň – field. 14, 17 – *Pricyclopyge oceanitis* Mergl, 2006, pygidium, PCZCU 1574; cranidium, PCZCU 1571, locality Olešná. 15, 16 – *Apatokephalus dagmarae* Mergl, 1984, pygidium, MM 084; cranidium, NM L 18601, locality Olešná. 18, 19, 21 – *Parapilekia olesnaenis* (Růžička, 1935), cranidium, PCZCU 1656; thoracopygon, NM L 38619; pygidium, MM 125; locality Olešná. 20, 22 – *Anacheirurus nanus* (Mergl, 1984), cranidium, MM 107; pygidium, MM 112, locality Olešná. Scale bars equal 1 mm.

Plate 4. Trilobites of the Mílina Formation.
1–4, 6–8, 10 *Holubaspis perneri* (Růžička, 1926), cranidia, PCZCU 1663, PCZCU 1667, PCZCU 1665, PCZCU 1666; pygidium in dorsal and oblique views, NM L 38524; thoracopygon, PCZCU 1664; librigena, JV 2477, localities Horní Kvaň – field (1) and Olešná (2–4, 6–8, 10). 5, 11 – *Dikelokephalina ulrichi* Růžička, 1935, cranidium, NM L 18637; pygidium, PCZCU 1614, locality Olešná. 9, 12 – *Hemibarrandia klouceki* Mergl, 2006, cranidium PCZCU 1647; pygidium VH 5025, locality Olešná. 13, 16 – *Platypeltoides perseis* Mergl, 2006, librigena, NM L 38506; pygidium PCZCU 1578, locality Olešná. 14, 17–18 – *Harpides grimmi* Barrande, 1852, almost complete specimen, NM L 16606; small fragmental cranidia, PCZCU 1583, PCZCU 1582, localities Dobřív (14) and Olešná (17, 18). 15 – *Ceratopyge mareki* Mergl, 1984, pygidium, PCZCU 1521, locality Olešná. Scale bars equal 5 mm.

Točník

Geography: Natural and artifical exposures in the surroundings of the castles Točník and Žebrák on the south-western part of the range of Zámecký vrch Hill, north to north-east of the village of Točník, 1.7 km NW to NNW of the church in Žebrák. Cadastre of Točník, District of Beroun.
Lithology: Cherts.

Kettner (1916a): Točník.
jehlice houbové, jehlice hub [sponge spicules]

Updated list of fauna:
undetermined sponges

Úvaly – shaft

Geography: Shafts, small pits and related mine dumps along the Praha – Úvaly road at the western margin of the town of Úvaly. Cadastre of Úvaly u Prahy, District of Praha-východ.
Lithology: Tuffites and tuffaceous shales.
Remark: A series of shafts and pits were dug during the mining activities west of Úvaly in the past. Some of these yielded fossils, including those from the Mílina Formation, which were studied by several authors. In some papers an exact shaft or pit can be identified but not in others. As all these sites are concentrated in quite a small area (approximately a wooded belt of the north-eastern margin of the Škvorec Game Reserve between the gamekeeper's lodge and the crossroads of U Přeložky and Jirenská streets, and its eastward continuation to the western edge of the narrow forest stretch along the north side of Pražská Street) they are all regarded as a single locality for the purposes of this paper.
The fossiliferous Třenice Formation also occurs at this locality. For details see Kraft et al. (2013, p. 58).

Klouček (1920b): Asi 1 km západně od Ouval [~ 1 km west of Ouvaly]; Ouvaly; u Ouval [near Ouvaly]; lokalita ouvalská [Ouvaly locality].
úlomky žeber a pygidia trilobitů [fragments of trilobite pleura and pygidia]; menší těžko určitelné zbytky trilobitů [small fragments of trilobites, difficult to determine]
3 obolidi (?) [3 obolids]
malinká orthis [tiny *Orthis*]
Dictyonema
(The remark on the above-mentioned fauna was identified to belong to the Mílina Formation because Klouček (1922a) emended the determination and, on that account also occurrence, of the graptolite *Dictyonema*. He confused a branched rhabdosome with the structure of genal caecae on the cephalon of trilobite *Harpides*. In addition, the lithotype containing the fossils corresponds to the lithology of the Mílina Formation near Úvaly described later.)

Klouček (1922a): U Ouval [near Ouvaly]; asi 1 km z. od Ouval při pražské silnici [~ 1 km west of Ouvaly, near the road to Prague].
Euloma
*Harpide*s cf. *rugosus*? mentioned also as *Harpides* af. *rugosus*
Apatocephalus
Olenid n. sp. totožný s olešským [new olenid identical with that from Olešná]
Parabolinella?
Ceratopyge
Cheirurus
Amphion
Symphysurus
Nileus
Niobe?
Asaphellus?
3 druhy agnostů, z nichž jeden blízký hofskému druhu *Agnostus bavaricus* Barr. [3 agnostid species, one of them is close to *Agnostus bavaricus* Barr. from Hof] the species is also mentioned as *Agnostus* af. *bavaricus* Barr.
malí lingulidi [small lingulids]
brachiopodi, asi 8 druhů [~ 8 species of brachiopods]
Billingsella incola Barr.

Klouček (1922b): Ouvaly; pres d'Ouvaly (Úvaly) [near Ouvaly (Úvaly)].
Euloma sp.
Ceratopyge sp.
Apatocephalus sp.
Parabolinella sp.?
Harpides cf. *rugosus* Sars et Boeck ?
une nouvelle espèce de la famille Olenidae [new species of the family Olenidae]
Symphysurus sp.
Nileus sp.
Niobe sp. ?
Asaphellus sp.?
Cheirurus sp.
Amphion sp.
trois [espèce] du genre *Agnostus* [three species of the genus *Agnostus*]

Kalat (1949): Škvorecká obora, mezi myslivnou a úvalským koncem obory, poslední větší východnější jáma [Škvorec Game Reserve, between the gamekeeper's lodge and the game reserve edge near Úvaly, the last large eastern shaft].
trilobiti fauny *Euloma-Niobe* [trilobites of the *Euloma-Niobe* Fauna]
Billingsella incola (Barr.)

Kalat (1949): Stará jáma v nejzápadnějším cípu úzkého pruhu lesa, na severní straně [státní silnice], na t. zv. Úvaláku [Old shaft at the westernmost corner of the narrow stretch of forest, on the north side (of the state road), on the so-called Úvalák Hill].
trilobiti [trilobites]
Linguelly [*Lingulella*]

Havlíček (1950): Úvaly (šachtice na záp. konci obce) [shaft at the western end of the village].
Jivinella incola (Barr.)
Lingulella cf. *insons* (Barr.)
Acrotreta minima (Barr.)
Trinodus bavaricus (Barr.)
Holubia bohemica Klouček
Euloma cf. *geinitzi* (Barr.)
Harpides cf. *rugosus* Sars et Boeck
Ceratopyge cf. *forficula* Sars
Apatocephalus cf. *serratus* (Sars et Boeck)
Niobe cf. *insignis* (Linrs.)
Niobe cf. *wirthi* (Barr.)
Hemibarrandia holoubkovensis (Růž.)

Remark to the compiled lists of Vaněk (1965) below: Some specimens came apparently from localities outside the Czech Republic.

Vaněk (1965): Úvaly Fp.I; Úvaly, Fp.I.
Geragnostus bavaricus (Barrande 1868)
Leiagnostus franconicus Sdzuy 1955
Proteuloma geinitzi (Barrande 1868)
Holubaspis perneri (Růžička 1926)
Apatokephalus asarkus Sdzuy 1955
Niobella innotata (Barrande 1868)
Hemibarrandia holoubkovensis (Růžička 1926)
Diceratopyge troedssoni Sdzuy 1955
Harpides grimmi Barrande 1872
Pilekia olesnaensis (Růžička 1935)
Eulomina mitrata (Růžička 1926)

Vaněk (1965): Úvaly Fp.II; Úvaly, Fp.II.
Leiagnostus franconicus Sdzuy 1955
Proteuloma geinitzi (Barrande 1868)
Parabolina frequens (Barrande 1868)
Holubaspis perneri (Růžička 1926)
Hemibarrandia holoubkovensis (Růžička 1926)
Harpides grimmi Barrande 1872
Pilekia olesnaensis (Růžička 1935)
Eulomina mitrata (Růžička 1926)

Vaněk (1965): Úvaly Fp.III; Úvaly, Fp.III.
Geragnostus bavaricus (Barrande 1868)
Proteuloma geinitzi (Barrande 1868)
Holubaspis perneri (Růžička 1926)
Niobella innotata (Barrande 1868)
Hemibarrandia holoubkovensis (Růžička 1926)
Diceratopyge troedssoni Sdzuy 1955
Pilekia olesnaensis (Růžička 1935)

Mergl (1984): Úvaly – the test pit; Úvaly – the test pit on the western edge of the village; Úvaly – the test-pit.
Pyritonema feitmanteli Poč.
Leptembolon insons insons (Barra)
Orbithele maior Mergl
Jivinella incola (Barrande, 1879)
Neptunagnostella peki sp. n.
Parapilekia olesnaensis (Růžička, 1935)
Hemibarrandia holoubkovensis (Růžička, 1926)
Ceratopyge mareki sp. n.
Harpides grimmi Barrande, 1872
Parabathycheilus vagans sp. n.
Holubaspis perneri (Růžička, 1926)
Proteuloma kettneri (Růžička, 1941)
Apatokephalus dagmarae sp. n.

Mergl (1997a): Úvaly (old test pits).
Thysanotos siluricus (Eichwald, 1840)

Mergl (2006): Úvaly, test pit; Úvaly, test-pit; Úvaly (Škvorec enclosure); Úvaly, Škvorec enclosure.
Parabathycheilus vagans Mergl, 1984
Proteuloma kettneri (Růžička, 1941)
Ceratopyge mareki Mergl, 1984
Pricyclopyge oceanitis sp. n.
Platypeltoides perseis sp. n.
Harpides grimmi Barrande, 1872

Updated list of fauna:
undetermined sponges
Leptembolon insons (Barrande, 1879)
Orbithele maior Mergl, 1981
Jivinella incola (Barrande, 1879)
Parabathycheilus vagans Mergl, 1984

Proteuloma kettneri (Růžička, 1941)
Ceratopyge mareki Mergl, 1984
Pricyclopyge oceanitis Mergl, 2006
Platypeltoides perseis Mergl, 2006
Harpides grimmi Barrande, 1872

Úvaly – Vinice

Geography: Exposures on the western slope of Vinice, the low flat hill east of Úvaly, near Prokůpek's mill. Cadastre of Úvaly u Prahy, District of Praha-východ.
Lithology: Cherts with intercalations of sandy shale and sandstone.

Kalat (1949): Vinice.
trilobiti [trilobites]
jehlice hub [sponge spicules]
malé Lingulelly [small specimens of *Lingulella*]

Havlíček (1950): Vinice.
Jivinella incola (Barr.)
Parapilekia bohemica (Klouček)
Euloma kettneri Růž.

Vaněk (1965): Úvaly Fp.IV; Úvaly, Fp.IV.
Holubaspis perneri (Růžička 1926)
Niobella innotata (Barrande 1868)
Hemibarrandia holoubkovensis (Růžička 1926)
Pilekia olesnaensis (Růžička 1935)

Mergl (1984): Úvaly – "Vinice"; Úvaly – "Vinice" hillside.
Pyritonema feitmanteli Poč.
Leptembolon insons insons (Barra)
Orbithele maior Mergl
Jivinella incola (Barrande, 1879)
Poramborthis klouceki Havlíček, 1949
Neptunagnostella peki sp. n.
Geragnostus atavus sp. n.
Parapilekia olesnaensis (Růžička, 1935)
Hemibarrandia holoubkovensis (Růžička, 1926)
Niobella sp.
Ceratopyge mareki sp. n.
Harpides grimmi Barrande, 1872
Parabathycheilus vagans sp. n.
Holubaspis perneri (Růžička, 1926)
Proteuloma kettneri (Růžička, 1941)
Apatokephalus dagmarae sp. n.

Vaněk (1999): West slope of Vinice east of Úvaly. The author mentioned that he found number of good specimens but there is nothing to add to previous papers.

Mergl (2002): Úvaly (Vinice).
Orbithele maior Mergl, 1981

Mergl (2006): Úvaly-Vinice; Úvaly, Vinice; Úvaly (Vinice).
Geragnostus peki (Mergl, 1984)
Hemibarrandia klouceki sp. n.
Agerina clymene sp. n.
Anacheirurus nanus (Mergl, 1984)
Parapilekia olesnaensis (Růžička, 1935)
Parabathycheilus vagans Mergl, 1984
Proteuloma kettneri (Růžička, 1941)
Ceratopyge mareki Mergl, 1984
Holubaspis perneri (Růžička, 1926)
Apatokephalus dagmarae Mergl, 1984
Platypeltoides perseis sp. n.
Jivinella incola
Poramborthis klouceki

Updated list of fauna:
Orbithele maior Mergl, 1981
Jivinella incola (Barrande, 1879)
Poramborthis klouceki Havlíček, 1949
Neptunagnostella peki (Mergl, 1984)
Hemibarrandia klouceki Mergl, 2006
Agerina clymene Mergl, 2006
Anacheirurus nanus (Mergl, 1984)
Parapilekia olesnaensis (Růžička, 1935)
Parabathycheilus vagans Mergl, 1984
Proteuloma kettneri (Růžička, 1941)
Ceratopyge mareki Mergl, 1984
Holubaspis perneri (Růžička, 1926)
Apatokephalus dagmarae Mergl, 1984
Platypeltoides perseis Mergl, 2006

Úvaly

Geography: A cumulative name; localities known only to be near the town of Úvaly. Cadastre of Úvaly u Prahy, District of Praha-východ.
Lithology: Tuffitic shales.
Remark: The fossiliferous Třenice Formation also occurs at this locality. For details see Kraft et al. (2013, p. 58–59).

Koliha (1924): Ouvaly.
Obolus (*Lingulobolus*) *Feistmanteli* (Barr.) var. *Barrandei* (Klouček)

Klouček (1925): Úvalské $d\alpha^2$ [$d\alpha^2$ of Úvaly region]. The author referred to the particular taxa, mentioned in the list of fauna found at Ouzký near

Holoubkov (in the Třenice Formation), found also near Úvaly. However, these references seem to show to a stratigraphic mixture.

Heritsch (1928): Gebiete von Ouvaly [Ouvaly region]; Ouvaly.
Euloma
Ceratopyge
Apatocephalus
Parabolinella
Harpides rugosus
ein neu Art aus der Familie der Oleniden [a new species of family of olenids]
Symphysurus
Nileus
Niobe
Asaphellus
Cheirurus
Amphion
drei Arten von *Agnostus* [three species of *Agnostus*]

Klouček (1931c): Úvaly.
Agnostus aff. *bavaricus* Barr.
Apatocephalus aff. *serratus* (Sars et Boeck) mentioned also as *Apatocephalus* aff. *serratus* (Sars. et Boeck)
Euloma cf. *ornatum* Ang.
Harpides sp. (cf. *grimmi* Barr.?)
Holubia bohemica n. g. n. sp.

Klouček (1931d): Úvaly.
Agnostus aff. *bavaricus* Barr.
Apatocephalus aff. *serratus* (Sars et Boeck)
Euloma cf. *ornatum* Ang.
Harpides sp. (cf. *grimmi* Barr.?) mentioned also as *Harpides* sp. (cf. *Grimmi* Barr.?)
Holubia bohemica n. g. n. sp.

Koliha (1937): Úvaly.
Lingulella cf. *insons* (Barr.)
Lingulella cf. *ordovicensis* Mob. et Seg.
Acrotreta minima (Barr.)
Billingsella incola (Barr.)
Agnostus cf. *bavaricus* Barr.
Agnostus sp.
Holubia bohemica Klou.
Parabolinella sp.
Euloma cf. *geinitzi* (Barr.)
Harpides cf. *rugosus* Sars et Boeck.
Ceratopyge cf. *forficula* Sars
Apatocephalus cf. *serratus* (Sars et Boeck)
Niobe cf. *insignis* (Linrs.)
Niobe cf. *wirthi* (Barr.)
Niobe sp.
Nileus sp.
Symphysurus bohemicus Klou.
Cyrtometopus sp.
Cheirurus cf. *discretus* Barr.
Amphion sp.

Havlíček (1949): Úvaly.
Jivinella incola (Barrande, 1879)

Prantl & Přibyl (1949): Úvaly.
Hemibarrandia holoubkovensis (Růžička, 1926)

Havlíček (1951): Úvaly.
Jivinella incola (Barrande, 1879)
Poramborthis kloučeki Havlíček, 1949

Havlíček (1977): Úvaly.
Poramborthis klouceki Havlíček, 1949
Jivinella incola (Barrande, 1879)

Pek (1977): Úvaly; Úvaly near Prague.
Geragnostus bavaricus (Barrande, 1868)
Leiagnostus franconicus Sdzuy, 1955

Fatka *et al*. (2013): Úvaly, East of Prague.
Harpides (The context indicates that *Harpides grimmi* Barrande, 1852 is meant)

Updated list of fauna:
The list above can include fossil sites from the whole area around Úvaly. It is very probable that most of them represent localities specified herein. Thus, it is purposeless to compile a single faunal list.

Zaječov – Hrbek Hill

Geography: Loose boulders on the fields and partly wooded slope of the low Hrbek Hill, about 1 km WSW from the monastery in Zaječov. Cadastre of Zaječov, District of Beroun.
Lithology: Lithic sandstones.

Mergl (2002): Zaječov (Hrbek).
Leptembolon insons (Barrande, 1879) (The occurrence of this species, which ranges from the Třenice to the Klabava Formation, cannot be proved based on the list in that paper at this locality where the Mílina and Klabava formations are in succession.)

Orbithele maior Mergl, 1981
Dactylotreta prisca sp. n. (The occurrence of this species, which ranges from the Třenice to the Klabava Formation, cannot be proved based on the list in that paper at this locality where the Mílina and Klabava formations are in succession.)

Updated list of fauna:
Leptembolon insons (Barrande, 1879)
Orbithele maior Mergl, 1981
Dactylotreta prisca Mergl, 2002

Zaječov – quarry near the school bulding

Geography: A small abandoned quarry and adjacent section in the road-cut above the quarry near the school building in the village of Zaječov, 250 m north-east from the Zvěstování Panny Marie Church in the complex of Augustinian Svatá Dobrotivá Monastery (Coordinates read from map: N 49° 45' 59.9" E 13° 50' 39.2" for the center of the quarry). Cadastre of Kvaň, District of Beroun.
Lithology: Cherts.
Remarks: This small quarry with exposed upper part of the Mílina Formation was recultivated in 2005. The recultivation affected the lower part of originally exposed succession. The beds with the index fossil *Jivinella incola* were covered by more than one metre of soil and this level is not accessible for sampling at present time. Celda Klouček likely did not observe this level with index fossils in the quarry, but in his field diary he noted the presence of *J. incola* in chert debris in nearby fields. He also found fragment of a trilobite in a chert but he was never successful in observation of the trilobite-bearing beds in the Zaječov and Horní Kvaň area.

Kettner (1916a): U školy ve Svaté Dobrotivé [Near the school building in Svatá Dobrotivá].
jehlice hub [sponge spicules]
Orthis incola Barr.

Klouček (1919): Sv. Dobrotivá.
Billingsella? (*Orthis*) *incola* Barr.
žebro trilobita rázu kambrického [pleura of a Cambrian-type trilobite]
kosodélníkové destičky [rhomboid small plates]
origin of the following fossils from the Mílina Formation is questionable:
jehlice hub [sponge spicules]
Obolus complexus Barr. velká varieta [large variety]
nový asi druh acrotrety (s lamellami) [probable new species of *Acrotreta* (with lamellae)]
velký obolus snad nový [probably new large *Obolus*] orbiculoidea
velká lingulella?, snad varieta druhu *L. insons* Barr. [large *Lingulella*?, perhaps a variety of the species *L. insons* Barr.]

Klouček (1920a): Sv. Dobrotivá.
Billingsella incola Barr.

Klouček (1925): sv. Dobrotivá.
The author referred to the particular taxa, mentioned in the list of fauna found at Ouzký near Holoubkov (in the Třenice Formation), found also at sv. Dobrotivá. However, these references seem to show to a stratigraphic mixture, are not unequivocal as some species are not clearly mentioned, and the references are common for more than this single locality.

Kraft (1928): Sv. Dobrotivá (in the description, it is mentioned as "u školy" [near the school building]).
Orthis incola

Mergl (1986): Zaječov.
Leptembolon insons insons
Schmidtites sp.
Thysanotos siluricus
Orbithele maior
Conotreta turricula
Conotreta grandis
Eosiphonotreta sp.
Jivinella incola
Poramborthis klouceki
Nothorthis kvanica
echinoderms

Mergl (1995): Zaječov (quarry near school building); Zaječov (quarry near scholl building); Zaječov (old quarry near school building); Zaječov, old quarry near scholl building.
Pidiobolus minimus sp.n.
Teneobolus gracilis sp. n.
Siphonotretella sp.

Mergl (1997a): Zaječov.
Thysanotos siluricus (Eichwald, 1840)

Mergl (2002): Zaječov (quarry near the school building); Zaječov (lom u školy – quarry near the school building).

Leptembolon insons (Barrande, 1879) (The occurrence of this species, which ranges from the Třenice to the Klabava Formation, cannot be proved based on the list in that paper at this locality where the Mílina and Klabava formations are in succession.)
Teneobolus bukovensis (Koliha, 1924)
Pidiobolus minimus Mergl, 1995
Thysanotos siluricus (Eichwald, 1840)
Orbithele maior Mergl, 1981
Dactylotreta prisca sp. n. (The occurrence of this species, which ranges from the Třenice to the Klabava Formation, cannot be proved based on the list in that paper at this locality where the Mílina and Klabava formations are in succession.)
Siphonotretella filipi sp. n. (The occurrence of this species, which ranges from the Mílina to the Klabava Formation, cannot be proved based on the list in that paper at this locality where both formations are in succession. However, *Siphonotretella* sp. recorded from the Mílina Formation at this locality, as follows from the figured specimens, is in the synonymy of the original description of this species. Thus, it can be indirectly inferred that the species is rightfully placed in this list.)

Updated list of fauna:
undetermined sponges
Leptembolon insons (Barrande, 1879)
Teneobolus bukovensis (Koliha, 1924)
Pidiobolus minimus Mergl, 1995
Thysanotos siluricus (Eichwald, 1840)
Orbithele maior Mergl, 1981
Dactylotreta prisca Mergl, 2002
Siphonotretella filipi Mergl, 2002
Jivinella incola (Barrande, 1879)
Jivinella slaviki (Klouček, 1915)
Poramborthis klouceki Havlíček, 1949
Kvania kvanica (Mergl, 1984)
echinoderms

Updated list of fauna of the Mílina Formation
Cyathophycus sp.
Mimospira sp.
Leptembolon insons (Barrande, 1879)
Teneobolus bukovensis (Koliha, 1924)
Pidiobolus minimus Mergl, 1995
Thysanotos siluricus (Eichwald, 1840)
Orbithele maior Mergl, 1981
Dactylotreta prisca Mergl, 2002
Acrotreta grandis Klouček, 1919
Siphonotretella filipi Mergl, 2002
Petrocrania caputium Mergl, 2002
Jivinella incola (Barrande, 1879)
Jivinella slaviki (Klouček, 1915)
Poramborthis klouceki Havlíček, 1949
*Poramborthis vonhorstig*i Villas, 2001
Kvania kvanica (Mergl, 1984)
Neptunagnostella peki (Mergl, 1984)
Geragnostus atavus Mergl, 1984
Hemibarrandia klouceki Mergl, 2006
Agerina clymene Mergl, 2006
Holoubkovia klouceki (Růžička 1926)
Anacheirurus nanus (Mergl, 1984)
Parapilekia olesnaensis (Růžička, 1935)
Parabathycheilus vagans Mergl, 1984
Holoubkocheilus asopus Mergl, 2006
Proteuloma kettneri (Růžička, 1941)
Niobina sp.
Ceratopyge mareki Mergl, 1984
Dikelokephalina ulrichi Růžička, 1935
Holubaspis perneri (Růžička, 1926)
Apatokephalus dagmarae Mergl, 1984
Pricyclopyge oceanitis Mergl, 2006
Platypeltoides perseis Mergl, 2006
Celdometopus klouceki (Vaněk, 1965)
Harpides grimmi Barrande, 1872
Macrocystella cf. *greylingi* Hammann et Sdzuy, 2001
Echinosphaerites sp.
Paleosphaeronites grossularia Mergl et Prokop, 2006
Pyrocystites sp.

REMARKS TO OTHER LOCALITIES

Holoubkov – Ouzký

Geography: Old shallow pit iron mine, number of small pits located in the currently wooded area north-west of the village of Holoubkov. This area is ~ 1 km from the center of the village and it is crossed by the freeway D5. The fossils were collected exclusively from the mine dumps, with the most fossiliferous samples in dumps centered around the deepest pit. (GPS coordinates: 49° 46' 50.2", E 13° 40' 47.2"). Cadastre of Holoubkov, District of Rokycany.
Lithology: Graded conglomerate with hematite matrix (ferrolith), and finely banded silicified haematites.
Remark: Despite mentions in the literature, an occurrence of the Mílina Formation and its fossils

(e.g., Heritsch 1928, Koliha 1937) at Holoubkov – Ouzký cannot be proved. The Třenice Formation is the only unquestionable unit at this locality. For details of its fossil content see Kraft *et al.* (2013, p. 38–49).

Krušná hora Hill

Geography: Exact site on Krušná hora Hill unknown. Cadastre of Hudlice, District of Beroun.
Lithology: Yellow-grey and red cherts.
Remarks: The only material described consists of two small chert pieces from the collections of the National Museum in Prague. These were collected apparently in the 19th century and their location was questioned by Kettner (1916a).
The fossiliferous Třenice Formation also occurs at this locality. For details see Kraft et al. (2013, p. 53).

Kettner (1916a): Krušná hora u Hudlic; Krušná hora; Krušná hora (?).
Orbiculoidea

Řevnice

Geography: Not specified south-west surroundings of Řevnice. Cadastre of Řevnice, District of Praha-západ and/or Zadní Třebaň, District of Beroun.
Lithology: Cherts with tuffaceous admixture.
Remarks: Fossils referred to the Mílina Formation likely come from the Olešná Member.

Havlíček & Šnajdr (1952): Jihozápadně od Řevnic [South-west of Řevnice].
Obolus complexus Barr.
Lingulella cf. *insons* (Barr.)
tetraxonní jehlice hub [tetraxon spicules]

Úvaly – mill-race

Geography: An exposure in the mill-race near Prokůpek's mill east of Mánesova Street in Úvaly. Cadastre of Úvaly u Prahy, District of Praha-východ.
Lithology: Shales.
Remarks: Kalat (1949) is the only author who described this locality near Úvaly – Vinice. He correlated the fossiliferous shales, which he discovered, with the lower part of the Mílina Formation. Even if he mentioned that they are ovelain by cherts this stratigraphic determination is doubtful.

Kalat (1949): Mlýnská strouha pod Mánesovou ulicí [The mill-race below Mánes Street].

Orbiculoidei [*Orbiculoidea*]
Actrotrety [*Acrotreta*]
Lingulelly [*Lingulella*]

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