

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

Jaroslav Kraft[†], Michal Mergl¹, Tomáš Hroch² & Petr Kraft^{3,4}

¹ Center of Biology, Geosciences and Environmental Sciences, Faculty of Education, University of West Bohemia in Plzeň, Klatovská 51, 306 19 Plzeň, Czech Republic; E-mail: mmengl@cbg.zcu.cz

² Czech Geological Survey, Klárov 3, 118 21 Praha 1, Czech Republic; E-mail: tom.hroch@gmail.com

³ Institute of Geology and Palaeontology, Faculty of Science, Charles University in Prague, Albertov 6, 128 43 Praha 2, Czech Republic; E-mail: kraft@natur.cuni.cz

⁴ West Bohemian Museum in Plzeň, Kopeckého sady 2, 301 00 Plzeň, Czech Republic

Abstract: Twenty nine fossiliferous localities of the Třenice Formation are described. As we were able to find they represent all fossil sites ever been described from that basal unit of the Prague Basin. Based on critical evaluation of the previously published data fossil taxa from all relevant publications are summarized and historic names used for the localities are mentioned. Updated lists of fauna are compiled for each locality as well as for the formation as a whole.

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

INTRODUCTION

Before he passed away, the senior author compiled a large data set on the Lower and Middle Ordovician of the Prague Basin (Barrandian area, Bohemia, Czech Republic). As a worker of the West Bohemian Museum in Plzeň; and prior to that at the Museum of Dr. B. Horák in Rokycany; his primary focus was on fossil sites in the south-western part of the Basin. Later in his life, he extended his scope of interest with one of the co-authors (P. K.), of this paper, to include the entire Prague Basin regardless of the age of sediments. This effort culminated in 2001–2003 when they gathered complex data on fossiliferous localities of the Prague Basin under the project of Ministry of Culture. As these important data have not had wide distribution a series of papers is intended to make the key data available; this being the first in the series. It is hoped that this project will serve as a basic dataset for diverse research in the Ordovician of the Barrandian area. It is also an explanatory document in which synonymous names for localities are listed to aid the researcher when using older publications and collections in their research. This, the first contribution, is focused on the Třenice Formation, the basal lithostratigraphic unit of the Prague Basin.

The Třenice Formation is the basal volcano-sedimentary fill in the Prague Basin (Havlíček 1981, 1998). It is generally coarser-grained sandstones and conglomerates often with the volcanic admixture (Kukal 1961, Hroch *et al.* 2012).

First fossils associated with the iron ore mining were studied in 19th century. Paleontologic field-work oriented on other localities was begun in the 20th century by C. Klouček, J. Koliha, and R. Růžička. Later, the Třenice Formation brachiopods (e.g. Havlíček 1982a, Mergl 2002) and trilobites (e.g. Vaněk 1965, Mergl 2006) have been mostly studied because they are the dominant groups. They were also included in general studies on fossil associations and their aspects (Havlíček 1982b, Havlíček & Fatka 1992, Havlíček & Vaněk 1966). Recently, special studies were focused on stratigraphic consequences of the succession of fossil assemblages (Mergl 2009), taphonomic aspects (Mergl 1996, 1997c) and peculiar community (Lehnert *et al.* 2004) in the Třenice Formation.

LOCALITIES

Only the Třenice Formation localities which are known to have yielded or, in some cases, possibly yeilded the fauna are included in the list. Records

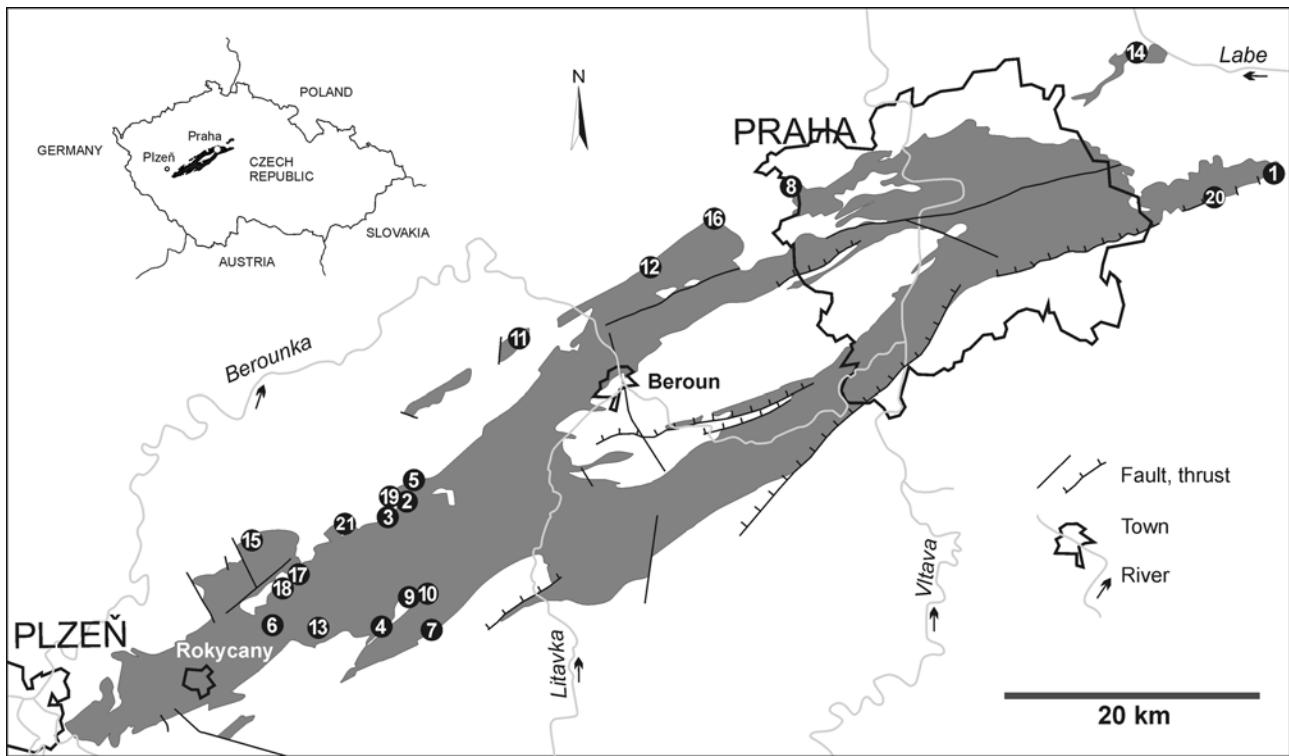


Figure 1. Sketch map of the Prague Basin relic and positions of the described localities. Location of the Prague Basin (black) in the Czech Republic (left up). The localities are ordered the same as in the text; those situated close to each other are plotted as a single point. 1 – Břežany – "Na Chrástnici" Quarry; 2 – Cerhovice – Cerhovská hora Hill; 3 – Cerhovice – Kvásek Hill; 4 – Cheznovice – Žlebec; 5 – Drozdov – Holý vrch Hill, Drozdov – Opiš; 6 – Holoubkov – Ouzký; 7 – Horní Kvaň – field; 8 – Hostivice; 9 – Jívina – quarries, Jívina Hill; 10 – Kleštěnice – Jalový potok Brook; 11 – Krušná hora – Gabriela Mine, Krušná hora – gallery, Krušná hora Hill; 12 – Libečov – Na močidle, Libečov – gallery; 13 – Medový Újezd, Medový Újezd – Hradiště; 14 – Popovice – Marešovka Quarry; 15 – Skomelno – Na Solich; 16 – Svatov; 17 – Těškov – Kněžský vrch Hill (quarry); 18 – Těškov – north-west of the village; 19 – Týček; 20 – Úvaly – shaft, Úvaly; 21 – Zbiroh – Bukov (old dump), Zbiroh – Bukov (quarries).

with insufficiently documented localities and lists of ambiguous fossils are omitted. 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 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) is compiled. 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 available 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:

MR – Museum of Dr. B. Horák in Rokycany,

NM – National Museum in Prague,

PCZCU – Faculty of Education, University of West Bohemia.

LIST OF LOCALITIES

Břežany – “Na Chrástnici” Quarry

Geography: Large abandoned quarry 700 m east-north-east of the village of Břežany II (distance and direction related to the church in the centre of the village), ~ 27 km east of Prague (measured from the centre of the city). Protected area PP Chrástnice. (Coordinates read from map: N 50° 05' 44.5" E 14° 48' 54.5" for centre of the quarry). Cadastre of Břežany II, District of Kolín.

Lithology: Pale yellow-grey lithic sandstone with chert nodules, shale intercalations.

Remarks: Steep slopes of the quarry covered by vegetation has only poor outcrops of the fossiliferous layers at present. Thin shale bed with dendroids has not been accessible for over 80 years. The fossil assemblage differs from other assemblages of the Třenice Formation by the abundance of well preserved but tectonically deformed fossils. That is why some authors assumed this locality to be equivalent of the Mílina Formation.

Koliha (1926a, 1926b): Břežany, Břežany u Českého Brodu [Břežany near Český Brod].

Dictyograptus flabelliformis (Eichwald)

forma, která upomíná *Dictyograptus flabelliformis* (Eichw.) var. *norvegica* Kjerulf [type resembling *Dictyograptus flabelliformis* (Eichw.) var. *norvegica* Kjerulf]

staurograpti [staurograptids]

Obolus Eichw.

Lingulella Salt.

snad i *Orbiculoides* d'Orb. [probably *Orbiculoides* d'Orb.]

Heritsch (1928): Břežany.

Obolus Feistmanteli

Lingulella expulsa

Obolus

Dictyograptus flabelliformis Eichw. Varietät *norvegica* Kjerulf

Stomatograptus

Obolus aus dem Subgenus *Schmidtia* [*Obolus* (*Schmidtia*)]

Klouček (1931a, 1931b): Břežany.

Dictyonema flabelliforme Eichw.

Obolus siluricus Eichw. (*Ob.* cf. *Barrandei*)

orthisky [orthids]

Lingulella sp.

Havlíček (1949a): Břežany.

Tritoechia kolihai n. sp.

Prantl & Přibyl (1949b): Břežany – lom vých. od obce [Břežany – quarry east of the village]; Břežany. *Dictyonema flabelliforme intermedium* nov. subspec. *Callograptus kodymi* nov. spec. ?*Desmograptus* sp.

Havlíček (1950): Chrástnice u Břežan [Chrástnice near Břežany].

Dictyonema flabelliforme intermedium Prantl a Přibyl

Callograptus kodymi Prantl a Přibyl

?*Desmograptus* sp.

Thysanotos barrandei barrandei (Klouček)

Thysanotos barrandei primus (Koliha)

Lingulobolus feistmanteli minor Prantl a Růžička

Lingulella cf. *insons* (Barr.)

Obolus giganteus Koliha

Tritoechia kolihai Havlíček

Havlíček (1951): Břežany.

Tritoechia kolihai Havlíček, 1949

Kraft (1975): Břežany – quarry „Na Chrástnici“.

Dictyonema flabelliforme intermedium Prantl et Přibyl, 1949

Callograptus kodymi Prantl et Přibyl, 1949

Havlíček (1977): Břežany, quarry on Chrástnice Hill. *Protambonites kolihai* (Havlíček, 1949)

Havlíček (1982a): Břežany, Chrástnice Hill (quarry); Břežany.

Thysanobolus lingulides sp. n.

Thysanobolus giganteus (Koliha, 1937)

Mergl (1997b): Břežany (“Na Chrástnici” quarry); Břežany (old quarry); Břežany (abandoned quarry “Na Chrástnici” East of Prague).

Thysanotos primus (Koliha, 1924)

Kraft (1997): Břežany – lom “Na Chrástnici” [Břežany – “Na Chrástnici” quarry].

Dictyonema intermedium Prantl et Přibyl, 1949

Callograptus kodymi Prantl et Přibyl, 1949

Mergl (2002): Břežany II (Na Chrástnici quarry); Břežany II (lom “Na Chrástnici” – “Na Chrástnici” quarry).

Thysanotos primus (Koliha, 1924)

Updated list of fauna:

Leptembolon sp.

Thysanotos primus (Koliha, 1924)

Protambonites kolihai (Havlíček, 1949)

Dictyonema intermedium Prantl et Přibyl, 1949

Callograptus kodymi Prantl et Přibyl, 1949

Cerhovice – Cerhovská hora Hill

Geography: Old filled quarries, and small natural outcrops 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 centre of village, western of Třenice. Cadastre of Cerhovice, District of Beroun.

Lithology: Predominantly greenish and brownish lithic cross-bedded sandstones. Several, less resistant lenticular volcanogenic sandstones 10 to 15 centimeters thick are intercalated in the cross-bedded sandstones. The volcanogenic sandstones are characterized by a large fraction of non-vesiculated chloritized volcanic glass and microcrystalline volcanic rocks (Hroch *et al.* 2012).

Remarks: Large quarries have limited access at present time, sandstones are poorly exposed. Exact stratigraphic levels of fossils are unknown. Fossils are generally rare.

? Lipold (1863): Umgebung von Cerhowice [vicinity of Cerhovice].

Lingula Feistmantelli Barr.

Barrande (1879): Czerhowitz.

Lingula Feistmanteli. Barr.

Jahn (1904a): Cerhovice (Třenice)

Obolella Feistmanteli

Jahn (1904b): Cerhovic (it is not specified and the locality is deduced from the previous record)

Obolella Feistmanteli

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

Koliha (1924): Cerhovská hora.

Obolus (Lingulobolus) Feistmanteli (Barr.)

Andrusov (1925): Cerhovská hora.

Orthis Kettneri Klou.

Kraft (1928): Cerhovská hora; Cerhovická hora.
Obolus Feistmanteli

Havlíček (1982a): Cerhovická hora near Cerhovice; Cerhovice.

Hyperobolus feistmanteli (Barrande, 1879)

Mergl (2002): Cerhovice; Cerhovice (Cerhovská hora Hill); Cerhovice (Cerhovický vrch Hill); Cerhovice (Cerhovská hora – Cerhovská hora Hill).
Hyperobolus feistmanteli (Barrande, 1879)

Updated list of fauna:

Hyperobolus feistmanteli (Barrande, 1879)

Cerhovice – Kvásek Hill

Geography: Old quarries in the Kvásek Hill ~ 3 km west of the centre of the village of Cerhovice, 2.2 km south-west of the church at the town square in Zbiroh. Cadastre of Cerhovice, District of Beroun and Cadastre of Zbiroh, District of Rokycany.

Lithology: Greenish, medium to coarse-grained lithic cross-bedded sandstone.

Remarks: Exact fossil sampling sites are unknown.

Jahn (1904a): Cerhovice (Kvásek)

Obolella Feistmanteli

Klouček (1920a): Kvásek.

Ob. Feistmanteli (typus)

Koliha (1924): Kvásek.

Obolus (Lingulobolus) Feistmanteli (Barr.)

Lingulella expulsa (Barr.)

? Heritsch (1928): Třenice.

Obolus Feistmanteli

Lingulella expulsa

Havlíček (1982a): Kvásek near Cerhovice.

Hyperobolus feistmanteli (Barrande, 1879)

Mergl (2002): Kvásek Hill; Cerhovice (Kvásek Hill).

Expellobolus expulsus (Barrande, 1879)

Hyperobolus feistmanteli (Barrande, 1879)

Updated list of fauna:

Expellobolus expulsus (Barrande, 1879)

Hyperobolus feistmanteli (Barrande, 1879)

Cheznovice – Žlebec

Geography: Quarry and wooded dumps of former iron ore mine in Žlebec near prominent curves of the road Strašice-Olešná, 1.1 km south-east-south of chapel in the village of Cheznovice (N 49° 46' 13.1", E 13° 47' 33.3"). Cadastre of Cheznovice, District of Rokycany.

Lithology: Volcanogenic clastics: sandstone and fine-grained conglomerate (with granules up to 0.5 cm in diameter). The clasts consist primarily

of rhyolite, andesite, and non-vesiculated chloritized volcanic glass fragments.

Remarks: Name Žlebec has been used for several fossil sample sites. The first is abandoned and by waste material partly infilled large quarry east of the road (Plate VII, Fig.1). This is likely the locality referred by Koliha (1924), Kraft (1928), and Havlíček (1982a). Another locality is situated westward (N 49°46'12.0", E 13°47'39.0") on a low slope of a small quarry near pits and dumps of the abandoned mines. Poorly outcropping sandstone beds yielded a distinct fauna described by Mergl (2002, 2006, 2009, 2012). The name Žlebec is also used for large dump and test pit located more to northwest. There, the haematitised tuffs of the Klabava Fomation and cherts of the Mílina Formation with a depauperate fauna of lingulate brachiopods were mined.

Koliha (1924): Žlebec u Cheznovic [Žlebec near Cheznovice].

Obolus (Lingulobolus) Feistmanteli (Barr.)

Kraft (1928): Žlebec u Cheznovic; veliký lom v lese jižně od Cheznovic (u k. 522) [large quarry in the forest south of Cheznovice (near elevation point 522)].

Obolus Feistmanteli

Havlíček (1982a): Žlebec near Cheznovice.

Hyperobolus feistmanteli (Barrande, 1879)

Mergl (2002): Cheznovice (Žlebec); Cheznovice (Žlebec, old dump).

Rosobolus magnus sp. n.

Orbithele discontinua Mergl, 1981

Acrotreta grandis Klouček, 1919

Siphonobolus simulans (Růžička, 1927)

Mergl (2006): Cheznovice; Cheznovice ("Žlebec").
Holoubkocheilus granulatus (Růžička, 1926)

Mergl (2009): Žlebec u Cheznovic [Žlebec near Cheznovice]; Cheznovice.

trilobiti [trilobites]

Acrotreta grandis Klouček

Siphonobolus simulans (Růžička)

Orbithele discontinua Mergl

Mergl (2012): Cheznovice.

Rosobolus magnus Mergl, 2002

Leptembolon insonis (Barrande, 1879)

Dactyloretta sp.

Acrotreta sp.

Siphonobolus simulans (Růžička, 1927)

Apheoorthina sp.

Eoorthis ? sp.

Trilobita gen. et sp. indet.

Updated list of fauna:

Leptembolon insonis (Barrande, 1879)

Rosobolus magnus Mergl, 2002

Acrotreta sp.

Dactyloretta sp.

Siphonobolus simulans (Růžička, 1927)

Apheoorthina sp.

Eoorthis? sp.

Trilobita gen. et sp. indet.

Drozdov – Holý vrch Hill

Geography: Old small abandoned quarries in the south slope of the Holý vrch Hill ~1.4 km north of the centre of the village of Drozdov. Cadastre of Drozdov, District of Beroun.

Lithology: Greenish lithic sandstone.

Remarks: Small quarries yielded nicely preserved internal and external moulds of brachiopods. Judging from stored samples, the fossils were abundant in particular levels. At present, exact positions of fossiliferous layers are unknown.

Koliha (1924): Holý vrch u Drozdova [Holý vrch Hill near Drozdov].

Obolus (Lingulobolus) Feistmanteli (Barr.)

Lingulella expulsa (Barr.)

Kraft (1928): Holý vrch u Drozdova [Holý vrch Hill near Drozdov]; lom na východním svahu [quarry on the eastern slope].

Obolus Feistmanteli

Orbiculoides sodalis

Mergl (1981): Holý vrch Hill at Třenice; Holý vrch at Třenice.

Orbithele secedens (Barrande, 1879)

Havlíček (1982a): Holý vrch near Drozdov; Holý vrch.

Hyperobolus feistmanteli (Barrande, 1879)

Mergl (2002): Drozdov (Holý vrch Hill).

Hyperobolus feistmanteli (Barrande, 1879)

Orbithele secedens (Barrande, 1879)

Updated list of fauna:

Expellobolus expulsus (Barrande, 1879)

Hyperobolus feistmanteli (Barrande, 1879)

Orbithele secedens (Barrande, 1879)

Drozdov – Opiš

Geography: Old small abandoned quarries in the south slope of the Opiš Hill (or Opyš Hill) ~ 1.6 km north-east of the centre of the village of Drozdov. Cadastre of Drozdov, District of Beroun.

Lithology: Greenish lithic sandstone.

Koliha (1924): Obiš u Drozdova [Obiš Hill near Drozdov].

Obolus (Lingulobolus) Feistmanteli (Barr.)

Lingulella expulsa (Barr.)

Havlíček (1982a): Obiš near Drozdov; Obiš.

Hyperobolus feistmanteli (Barrande, 1879)

Mergl (2002): Drozdov (Obiš Hill).

Expellobolus expulsus (Barrande, 1879)

Hyperobolus feistmanteli (Barrande, 1879)

Updated list of fauna:

Expellobolus expulsus (Barrande, 1879)

Hyperobolus feistmanteli (Barrande, 1879)

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 centre 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 centred around the deepest pit (N 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 haematites. Well-rounded clasts are represented by polycrystalline quartz, Neoproterozoic cherts, and rhyolites and andesites of the Křivoklát-Rokycany Complex.

Remarks: The locality has been known over 150 years, but the exact stratigraphic succession of the fossil associations is unknown due to lack of exposures. However, the fossils surely came from several levels. The basal or intercalated conglomeratic bed(s) yielded encrusting problematic fossil *Marcusodictyon*. Coeval or slightly younger association has many large rhynchonelliformean brachiopods (*Poramborthis*, *Eoorthis*, *Roberorthis*), abundant cystoids while the linguliformean brachiopods, and trilobites are rare. Probably the youngest assemblage of the Třenice Formation have a rich trilobite fauna, different rhynchonelliformean brachiopods (e.g. *Jivinella*), different cystoids, a gastropod, and a rich suite of generally small-sized linguliformean brachiopods. Abundance of laminated

haematites represents an outstanding phenomenon of a stromatolitic sea-floor. At present there are very few loose blocks of fossiliferous haematites in the dumps. However, if discovered they yield abundant and well preserved fossils. Abrasion of shells indicates the littoral environment.

Lipold (1863): Auskyer Zeche bei Holoubkau [Ausky Mine near Holoubkov].

Orthis desiderata Barr.

ein ander gross noch nicht bestimmten *Orthis*-Art [other different large, uncertain species of *Orthis*]

Feistmantel (1878): Ausker Zeche bei Holoubkov [Ausky Mine near Holoubkov].

mehrere Arten von *Orthis* und Cystideen [many species of *Orthis* and cystoids]

Barrande (1879): Ausken Zeche près Holaubka [Ausky Mine near Holoubkov]; Mines de fer près Holaubka; [Iron mines near Holoubkov]; Minerai de fer près de Holoubka [Iron ore near Holoubkov].

Orthis Grimmi. Barr.

Orthis potens. Barr.

Orthis soror. Barr.

Waagen (1887): Holoubka; Ausken Zeche, Holoubka [Ausky Mine, Holoubkov].

Echinosph. ? concomitans. Barr. [*Echinospaerites ? concomitans*. Barr.]

Echinosph. ? ferrigena. Barr. [*Echinospaerites ? ferrigena*. Barr.]

Krejčí & Feistmantel (1890): důl „Ouzký“ u Holoubkova [“Ouzký” Mine near Holoubkov].

Orthis Grimmi

Orthis soror

Orthis potens

Katzer (1892): Eisenerzgrube bei Holoubkau [Iron ore mine near Holoubkov], Ouzkýzeche bei Holoubkau [Ouzký Mine near Holoubkov]

Orthis Grimmi Barr.

Orth. soror

Orth. potens

Klouček (1924): Ouzký; Ouzký u Holoubkova [Ouzký near Holoubkov].

Euloma

Apatocephalus

Olenid n. sp. I.

Olenid n. sp. II (zcela nový druh) [Olenid n. sp. II (entirely new species)]

Sympysurus

Hemibarrandia (?)

<i>Cheirurus</i>	<i>Obolus complexus</i> var.
<i>Amphion</i> (?)	<i>Obolus</i> n. sp. (?)
asi 4 druhy billingsell (othis) mezi nimi známá	<i>Lingulella insona</i> Barr.
<i>Billingsella incola</i> Barr. [some 4 species <i>Billingsella</i> (<i>Orthis</i>), known <i>Billingsella incola</i> Barr. among them]	<i>Lingulella</i> (?) n. sp.
velká forma acrotrety [large form of <i>Acrotreta</i>]	<i>Conularia</i> sp.
<i>Orbiculoides undulosa</i> Barr. i druhá neundulosní	Cystidey, nejméně 4 druhy [at least 4 species]
[<i>Orbiculoides undulosa</i> Barrande and also another non-undulose]	Problematica (deduced from the species numbering three problematic fossils are supposed)
několik zcela nových menších druhů obolů blízkých rodu <i>Obolus Feistmanteli</i> i druhu <i>Ob. Barrandei</i> Klou. [several completely new smaller species of <i>Obolus</i> close to the genus <i>Obolus Feistmanteli</i> as well as species <i>Ob. Barrandei</i> Klou.]	Růžička (1926): Holoubkov (v Ouzkém) [Holoubkov (In Ouzký)]; bývalé doly v Ouzkém u Holoubkova [former mines in Ouzký near Holoubkov]; rudné ložisko v Ouzkém [ore deposit in Ouzký]; Ouzký (variants of the locality name are used only in the introduction).
<i>Obolus complexus</i> Barr.	<i>Euloma granulatum</i> n. sp.
fragmenty z různých cystid [fragments of various cystids]	<i>Euloma mitratum</i> n. sp.
conularie [conulariid]	<i>Olenus</i> (<i>Cyclognathus</i> ?) sp. I
Klouček (1925): Ouzký; Ouzký u Holoubkova [Ouzký near Holoubkov].	<i>Olenus</i> sp. II
<i>Olenid</i> n. sp. I.	<i>Niobe ferrigena</i> n. sp.
<i>Olenid</i> n. sp. II.	<i>Niobe</i> sp.
<i>Euloma</i> sp.	<i>Asaphid</i> (<i>Megalaspis</i> ?)
<i>Euloma</i> (?) n. sp.	<i>Nileus Holoubkovensis</i> n. sp.
<i>Apatocephalus</i> sp.	<i>Sympysurus Bröggeri</i> n. sp.
<i>Parabolinella</i> (?)	<i>Cheirurus Perneri</i> n. sp.
neznámé pygidium [unknown pygidium]	<i>Cheirurus</i> sp.
<i>Lichas</i> sp.	<i>Cyrtometopus bohemicus</i> n. sp.
<i>Sympysurus</i> sp. I.	<i>Pliomera</i> sp.
<i>Sympysurus</i> sp. II („ <i>Hemibarrandia</i> “).	<i>Pliomera</i> sp.
<i>Cheirurus</i> sp.	<i>Lichas Klouček</i> n. sp.
<i>Niobe</i> (?)	<i>Lichas</i> sp.
<i>Megalaspis</i> (?)	<i>Illaenus</i> (<i>Bumastus</i> ?) sp.
<i>Orthis</i> (<i>Billingsella</i>) <i>incola</i> Barr.	<i>Hypostom</i> (<i>Megalaspis</i> ?)
<i>Orthis</i> <i>Grimmi</i> Barr, nejméně dvě variety [at least two varieties]	<i>Hypostom</i> (<i>Olenid</i>)
<i>Orthis</i> <i>potens</i> Barr.	Klouček (1927a, 1927b): Ouzký.
<i>Orthis</i> <i>soror</i> Barr.	Critical remarks to Růžička's (1926) descriptions can be summarized as follows:
<i>Orthis</i> sp.	<i>Euloma granulatum</i> n. sp. is valid
Brachiopod n. sp.	<i>Euloma mitratum</i> n. sp. is conspecific with <i>E. granulatum</i>
Brachiopod n. sp.	<i>Sympysurus Bröggeri</i> n. sp. is conspecific with <i>S. bohemicus</i> Klouček
<i>Discina</i> (<i>Orbiculoides</i>) <i>undulosa</i> Barr. a její varieta neundulosní [<i>Discina</i> (<i>Orbiculoides</i>) <i>undulosa</i> Barr. and its non-undulose variety]	<i>Cheirurus Perneri</i> n. sp. does not belong to the genus <i>Cheirurus</i>
<i>Acrotreta</i> sp.	Růžička (1927): Holoubkov (v Ouzkém) [Holoubkov (In Ouzký)]; rudní ložisko u Holoubkova (v Ouzkém) [ore deposit near Holoubkov (In Ouzký)]; Ouzký.
<i>Acrotreta</i> n. sp.	<i>Micromitra</i> (<i>Iphidella</i>) <i>Walcotti</i> n. sp.
<i>Obolus Barrandei</i> (<i>Ob. Feistmanteli</i> var. <i>Barrandei</i> dle J. Kolihy) [<i>Obolus Barrandei</i> (<i>Ob. Feistmanteli</i> var. <i>Barrandei</i> according to J. Koliha)]	<i>Obolus</i> (<i>Lingulobolus</i>) cf. <i>Feistmanteli</i> (Barr.)
<i>Obolus Klouček</i> (?) Koliha	<i>Obolus</i> sp.
<i>Obolus</i> (?) n. sp. asi 2 var. [probably 2 varieties]	<i>Obolus siluricus</i> Eichw.

<i>Lingulella insons</i> (Barr.)	<i>Obolus</i> n. sp.
<i>Lingulella Bukovensis</i> Kol.	<i>Lingulella (Baroisella) insons</i> Barr.
<i>Kutorgina Koliha</i> n. sp.	Cystoidea – nejméně 4 druhy [at least 4 species] jiná problematika [other problematic fossils]
<i>Siphonotreta Krafti</i> n. sp.	
<i>Siphonotreta simulans</i> n. sp.	Růžička (1931): rudní ložisko u Holoubkova (v Ouzkém) [ore deposit near Holoubkov (In Ouzký)]; Ouzký.
<i>Acrotreta grandis</i> [Klou.]	<i>Euloma granulatum</i> Ruž.
<i>Orbiculoides socialis</i> var. <i>undulosa</i> (Barr.)	<i>Eulomina</i> n.g. <i>mitratum</i> Ruž.
<i>Orthis (Billingsella) Grimmi</i> Barr.	<i>Syphysurus Bröggeri</i> Ruž.
<i>Orthis (Billingsella) Grimmi</i> Bar. var. <i>lamellosa</i> n. var.	<i>Syphysurus bohemicus</i> Klou.
<i>Orthis (Billingsella?)</i> sp.	<i>Nileus Holoubkvensis</i> Ruž.
<i>Orthis (Billingsella) incola</i> Barr.	<i>Pliomera</i> sp.
<i>Orthis soror</i> Barr.	<i>Lichas Kloučekii</i> Ruž.
<i>Orthis</i> sp.	<i>Cheirurus</i>
<i>Sphaeronites crateriformis</i> n. sp.	<i>Holometopus Grönwalli</i> n. sp.
<i>Sphaeronites Batheri</i> n. sp.	<i>Olenus</i> sp. III
<i>Sphaeronites</i> sp.	pygidium
Cystidea (blíže neurčitelná) [Cystidea (undeterminable more precisely)]	hypostomy [hypostoms]
<i>Clisospira</i> sp.	Koliha (1937): Ouzký, près de Holoubkov [Ouzký near Holoubkov].
Ostracod?	<i>Obolus</i> cf. <i>kloučekii</i> Kol.
Heritsch (1928): Ouzký.	<i>Obolus (Lingulolobus)</i> cf. <i>feistmanteli</i> (Barr.)
Oleniden [olenids]	<i>Obolus (Mickwitzella)</i> cf. <i>barrandei</i> (Klou.)
<i>Euloma</i>	<i>Obolus compeexus</i> Barr.
<i>Cheirurus</i>	<i>Lingulella insons</i> (Barr.)
<i>Amphion</i>	<i>Micromitra (Iphidella) walcotti</i> Růž.
<i>Lichas</i>	<i>Kutorgina Koliha</i> Růž.
<i>Syphysurus</i>	<i>Orbiculoides sodalis undulosa</i> (Barr.)
<i>Apatocephalus</i>	<i>Siphonotreta krafti</i> Růž.
<i>Parabolinella</i>	<i>Siphonotreta simulans</i> Růž.
<i>Niobe</i>	<i>Acrotreta grandis</i> Klou.
Kraft (1928): Úzký u Holoubkova [Úzký near Holoubkov].	<i>Billingsella incola</i> (Barr.)
<i>Olenus</i>	<i>Billingsella grimmi</i> (Barr.)
<i>Euloma</i>	<i>Orthis soror</i> Barr.
<i>Syphysurus</i> sp.	<i>Orthis potens</i> Barr.
<i>Syphysurus</i> – <i>Hemibarrandia</i>	<i>Clisospira</i> sp.
<i>Cheirurus</i> sp.	<i>Conularia</i> sp.
<i>Lichas</i> sp.	<i>Sphaeronites crateriformis</i> Růž.
<i>Niobe</i>	<i>Sphaeronites batheri</i> Růž.
<i>Nileus</i>	<i>Euloma granulatum</i> Růž.
celkem asi 13 druhů trilobitů [altogether about 13 species of trilobites]	<i>Eulomina mitratum</i> Růž.
<i>Orthis (Billingsella) incola</i> Barr.	<i>Apatocephalus</i> sp.
<i>Orthis (Billingsella) Grimmi</i> Barr.	<i>Holubia bohemica</i> Klou.
<i>Orthis (Billingsella) potens</i> Barr.	<i>Olenus</i> sp.
<i>Orbiculoides (Discina) undulosa</i>	<i>Niobe ferrigena</i> Růž.
<i>Acrotreta</i> n. sp.	<i>Nileus holoubkvensis</i> Růž.
<i>Acrotreta</i> n. sp.	<i>Syphysurus bohemicus</i> Klou.
<i>Obolus Feistmanteli</i> – var. <i>Barrandei</i>	<i>Megalaspis</i> sp.
<i>Obolus complexus</i> Barr.	<i>Cyrtometopus bohemicus</i> Růž.
	<i>Lichas kloučekii</i> Růž.

- Havlíček (1949a): Holoubkov.
Jivinella postcedens n. sp.
Apheoorthina ferrigena n. sp.
Apheoorthina bohemica n. sp.
Ocneorthis soror (Barrande, 1879)
Ocneorthis filia n. sp.
Orthammonites ruzickai n. sp.
Poramborthis lamelosa (Růžička, 1927)
Poramborthis grimmii (Barrande, 1879)
Poramborthis anomala n. sp.
Orthis? *potens* Barrande, 1879
- Prantl & Přibyl (1949a): "Mine Ouzký" near Holoubkov.
Hemibarrandia holoubkvensis (Růžička, 1926)
- Havlíček (1951): Holoubkov.
Jivinella postcedens Havlíček, 1949
Apheoorthina bohemica Havlíček, 1949
Ocnerorthis soror (Barrande, 1879)
Ocnerorthis filia Havlíček, 1949
Orthammonites ruzickai Havlíček, 1949
Poramborthis anomala Havlíček, 1949
- Vaněk (1959): Holoubkov, rudní ložisko v „Ouzkém“ [Holoubkov, ore deposit in "Ouzký"]; býv. důl „Ouzký“ u Holoubkova [former mine "Ouzký" near Holoubkov].
Platylichas kloučekii (Růžička, 1926)
- Prokop (1964): „V Ouzkém“ near Holoubkov.
Paleosphaeronires crateriformis (Růžička, 1927)
- Vaněk (1965): „Na pískách“, ehemalige Grube „Ouzký“ N Holoubkov [„Na Pískách“, former mine „Ouzký“ north of Holoubkov]; Grube Ouzký bei Holoubkov [Ouzký Mine near Holoubkov]; Halden der ehemaligen Grube „Ouzký“ bei Holoubkov („Na pískách“) [mine dumps of the former "Ouzký" Mine near Holoubkov ("Na pískách")]; „Ouzký“ bei Holoubkov [“Ouzký” near Holoubkov]; ehemalige Grube „Ouzký“ bei Holoubkov („Na pískách“) [former "Ouzký" Mine near Holoubkov ("Na pískách")].
Holubaspis perneri (Růžička, 1926)
Hemibarrandia holoubkvensis (Růžička, 1926)
Pilekia bohemica (Růžička, 1926)
Eulomina mitrata (Růžička, 1926)
Eulomina granulata (Růžička, 1926)
Pharostomina oepiki Sdžuy, 1955
Platylichas kloučekii (Růžička, 1926)
- Přibyl & Vaněk (1969): Holoubkov bei Rokycany [Holoubkov near Rokycany]; Holoubkov, „Ouzký“; Holoubkov („Ouzký“ bei Rokycany) [Holoubkov ("Ouzký" near Rokycany)].
Holoubkovia klouceki (Růžička, 1926)
- Horný & Bastl (1970): Ouzký near Holoubkov.
Pilekia bohemica (Růžička, 1926)
Diceratopyge? ferrigena (Růžička, 1926)
Hemibarrandia holoubkvensis (Růžička, 1926)
Eulomina granulata (Růžička, 1926)
Platylichas kloučekii (Růžička, 1926)
Eulomina mitrata (Růžička, 1926)
Pharostomina oepiki Sdžuy, 1955
Holubaspis perneri (Růžička, 1926)
- Havlíček (1977): Holoubkov, abandoned ore mine "V Ouzkém".
Protambonites soror (Barrande, 1879)
Poramborthis grimmii (Barrande, 1879)
Poramborthis anomala Havlíček, 1949
Poramborthis cf. hispanica Havlíček, 1972
Apheoorthina ferrigena Havlíček, 1949
Apheoorthina bohemica Havlíček, 1949
Jivinella postcedens Havlíček, 1949
Jivinella? ferrea Havlíček, 1977
Robertorthis holoubkvensis Havlíček, 1977
Robertorthis potens (Barrande, 1879)
Eoorthis ruzickai (Havlíček, 1949)
Ranorthis prima Havlíček, 1977
- Havlíček (1980): Holoubkov.
Conotreta grandis (Klouček, 1915)
- Mergl (1981): Holoubkov, abandoned iron ore mine "V Ouzkém"; Holoubkov, "V Ouzkém".
Orbithele discontinua sp. n.
- Havlíček (1982a): Holoubkov, abandoned iron ore mine; Holoubkov; Holoubkov, iron ore mine; abandoned iron ore mine at Holoubkov.
Rosobolus robertinus sp. n.
Palaeoglossa bukovensis (Koliha, 1924)
Elkanisca sp. A
Broeggeria sp.
Lacunites walcotti (Růžička, 1927)
Koligium kolihai (Růžička, 1927)
Eosiphonotreta krafti (Růžička, 1927)
Siphonobolus simulans (Růžička, 1927)
Ferrobolus catharinus sp. n.
- Mergl (1984a): abandoned iron ore mine „Ouzký“ N of Holoubkov; Holoubkov, abandoned iron ore mine „Ouzký“.
Marcusodictyon exspenctans sp. n.
- Mergl (1984b): The mine "Ouzký" near Holoubkov; "Ouzký"
Hemibarrandia holoubkvensis (Růžička, 1926)
Holubaspis perneri (Růžička, 1926)

- Mergl (1994a): Holoubkov, abandoned mine "Ouzký";
Holoubkov.
Elkanisca obesa (Havlíček, 1980)
- Mergl (1994b): Holoubkov
Ottenbyaspis (?) broeggeri (Růžička, 1926)
Hemibarrandia holoubkvensis (Růžička, 1926)
Holoubkovia klouceki (Růžička, 1926)
Anacheirurus bohemicus (Růžička, 1926)
Parapilekia ferrigena sp. n.
Parabathycheilus sp.
Holoubkocheilus granulatus (Růžička, 1926)
Holubaspis perneri (Růžička, 1926)
Apatokephalus (?) sp.
Proteuloma cf. kettneri (Růžička, 1941)
Eulomina mitratum (Růžička, 1926)
- Mergl (2002): Holoubkov (V Ouzkém).
Leptembolon insons (Barrande, 1879)
Hyperobolus feistmanteli (Barrande, 1879)
Thysanotos primus (Koliha, 1924)
Broeggeria ferraria sp. n.
Rosobolus robertinus Havlíček, 1982
Elkanisca obesa (Havlíček, 1980)
Ferrobolus catharinus Havlíček, 1982
Orbithele discontinua Mergl, 1981
Acrotreta grandis Klouček, 1919
Eosiphonotreta krafti (Růžička, 1927)
Siphonobolus simulans (Růžička, 1927)
Celdobolus aff. mirandus (Barrande, 1879)
Koligium kolihai (Růžička, 1927)
Lacunites walcotti (Růžička, 1927)
Petrocrania sp.
- Mergl (2006): Holoubkov; Holoubkov, dumps of the abandoned "V Ouzkém" iron ore mine; Holoubkov ("V Ouzkém").
Ottenbyaspis broeggeri (Růžička, 1926)
Hemibarrandia holoubkvensis (Růžička, 1926)
Agerina ferrigena (Růžička, 1926)
Agerina clymene sp. n.
Holoubkovia klouceki (Růžička, 1926)
Anacheirurus bohemicus (Růžička, 1926)
Parapilekia ferrigena Mergl, 1994
Parabathycheilus krafti sp. n.
Holoubkocheilus granulatus (Růžička, 1926)
? dikelocephalinid
Holubaspis perneri (Růžička, 1926)
Apatokephalus aff. dagmarae Mergl, 1984
Platypeltoides sp.
Eulomina mitratum (Růžička, 1926)
- Mergl & Prokop (2006): Holoubkov, abandoned mine "V Ouzkém"; Holoubkov, abandoned iron ore mine called "V Ouzkém"; Holoubkov, "V Ouzkém".
- Echinospaerites concomitans* Barrande, 1887
Glyptospaerites ferrigena (Barrande, 1887)
Paleospaeronites crateriformis (Růžička, 1927)
Pyrocystites sp.
- Mergl (2009): Holoubkov; důl Ouzký u Holoubkova [Ouzký Mine near Holoubkov].
Marcusodictyon exspectans
Protambonites soror (Barrande)
Poramborthis grimmi (Barrande)
Poramborthis anomala Havlíček
Eoorthis ruzickai Havlíček
Robertorthis potens (Barrande)
Robertorthis holoubkvensis Havlíček
Kvania prima (Havlíček)
Apheoorthina ferrigena Havlíček
Glyptospaerites ferrigena (Barrande)
Echinospaerites concomitans (Barrande)
Poramborthis cf. grimmi (Havlíček)
Jivinella postcedens (Havlíček)
Apheoorthina bohemica Havlíček
Kvania sp.
Leptembolon insons (Barrande)
Rosobolus robertinus Havlíček
Rosobolus sp.
Broeggeria ferraria Mergl
Elkanisca obesa Havlíček
Ferrobolus catharinus Havlíček
Orbithele discontinua Mergl
Acrotreta grandis Klouček
Eosiphonotreta krafti (Růžička)
Siphonobolus simulans (Růžička)
Koligium kolihai (Růžička)
Lacunites walcotti (Růžička)
Petrocrania sp.
Palaeospaeronites crateriformis (Růžička)
Pyrocystites sp.
Mimospira sp.
Ottenbyaspis broeggeri (Růžička)
Hemibarrandia holoubkvensis (Růžička)
Agerina ferrigena (Růžička)
Anacheirurus bohemicus (Růžička)
Parapilekia ferrigena Mergl
Parabathycheilus krafti Mergl
Eulomina mitratum Růžička
Apatokephalus aff. dagmarae Mergl
Platypeltoides sp.
Holoubkocheilus granulatus (Růžička)
Holubaspis perneri (Růžička)
Holoubkovia klouceki (Růžička)
? *Proteuloma* sp.

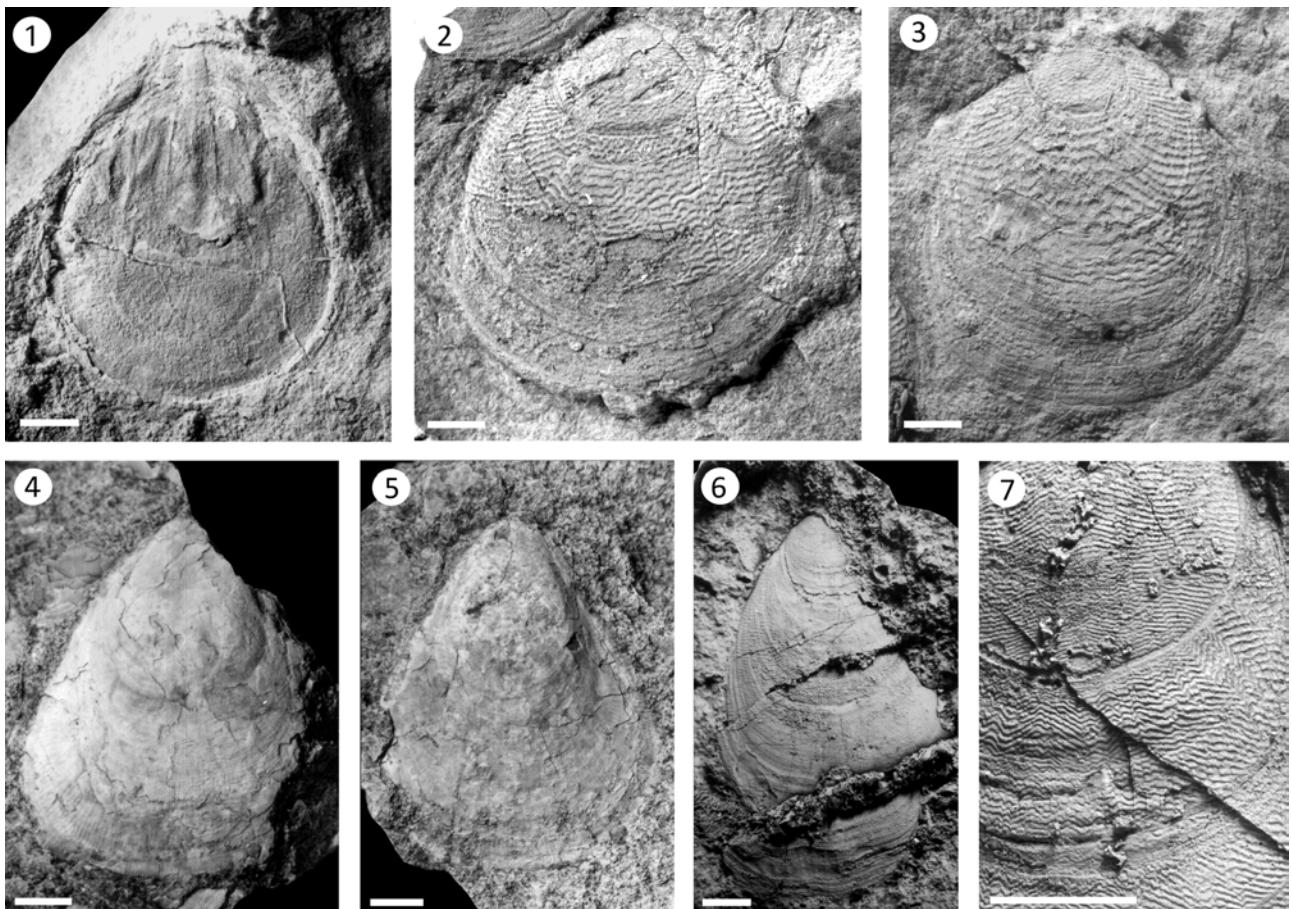


Plate I. Lingulate brachiopods with burrowing sculptures of the Třenice Formation from the Libečov – Na močidle locality. 1–3 – *Westonisca lamellosa* (Barrande, 1879), ventral valve MR 66901, dorsal valve MR 66899a, dorsal valve MR 66896b. 4, 5 – *Libecoviella arachne* (Barrande, 1879), dorsal valve MR 2186, dorsal valve NM L 32018. 6, 7 – *Libecoviella ovata* Havlíček, 1982, ventral valve, NM L 32028, detail of ornament, NM L 32027. Scale bars equal 2 mm.

Plate II. Lingulate brachiopods of the Třenice Formation. Localities: Holoubkov – Ouzký (1–4, 6, 9, 12, 13, 17–25), Zbiroh – Bukov (quarries) (5), Cheznovice – Žlebec (11), Krušná hora Hill (14–16).

1–4 – *Acrotreta grandis* Klouček, 1916, dorsal valve NM L 36747, ventral valve MN L 36749, ventral valve (two views) MR 21501. 5 – *Teneobolus bukovensis* (Havlíček, 1982), dorsal valve NM L 36715. 6 – *Orbithele discontinua* Mergl, 1981, ventral valve NM L 36737. 7 – *Orbithele secedens* (Barrande, 1879), ventral valve NM L 36742. 8 – *Elkanisca obesa* (Havlíček, 1980), dorsal valve MR 65773. 9 – *Petrocrania* sp., dorsal valve MR 23396. 10 – *Expellobolus expulsus* (Barrande, 1879), dorsal valve NM L 30790. 11 – *Rosobolus magnus* Mergl, 2002, ventral valve PCZCU 603b. 12, 13 – *Rosobolus robertinus* Havlíček, 1982, ventral valve MR 21833, dorsal valve MR 21467. 14–16 – *Hyperobolus feistmanteli* (Barrande, 1879), dorsal valve MR 21964, ventral valve MR 21938, dorsal valve MR 22780. 17–19 – *Ferrobolus catharinus* Havlíček, 1982, ventral valve MR 21837, ventral valve NM L 18125, dorsal valve MR 21835. 20 – *Eosiphonotreta krafti* (Růžička, 1927), dorsal valve MR 23744. 21 – *Siphonobolus simulans* (Růžička, 1927), ventral valve MR 21692. 22, 23 – *Koligium kolihai* (Růžička, 1927), dorsal valve MR 21519, ventral valve, NM L 18129. 24, 25 – *Lacunites walcotti* (Růžička, 1927), ventral valve MR 22015, ventral valve NM L 36757. Scale bars equal 2 mm (1–13, 17–25) and 10 mm (14–16).

Plate III. Orthid brachiopods of the Třenice Formation from the Holoubkov – Ouzký locality.

1–3 – *Kvania prima* (Havlíček, 1977), dorsal valve, MR 21470, ventral valve MR 21471, ventral valve MR 21472. 4–6 – *Eoorthis ruzickai* Havlíček, 1949, dorsal valve, MR 21724a, ventral valve MR 21724b, ventral valve MR 21462. 7–9 – *Apheoorthina ferrigena* Havlíček, 1949, ventral valve MR 21719, ventral valve MR 21720, dorsal valve MR 21717. 10–12 – *Apheoorthina bohemica* Havlíček, 1949, dorsal valve MR 21576, dorsal valve MR 21575, dorsal valve MR 21691. 13–15 – *Jivinella postcedens* Havlíček, 1949, dorsal valve MR 21814, ventral valve MR 21469. Scale bars equal 2 mm.

Plate II.

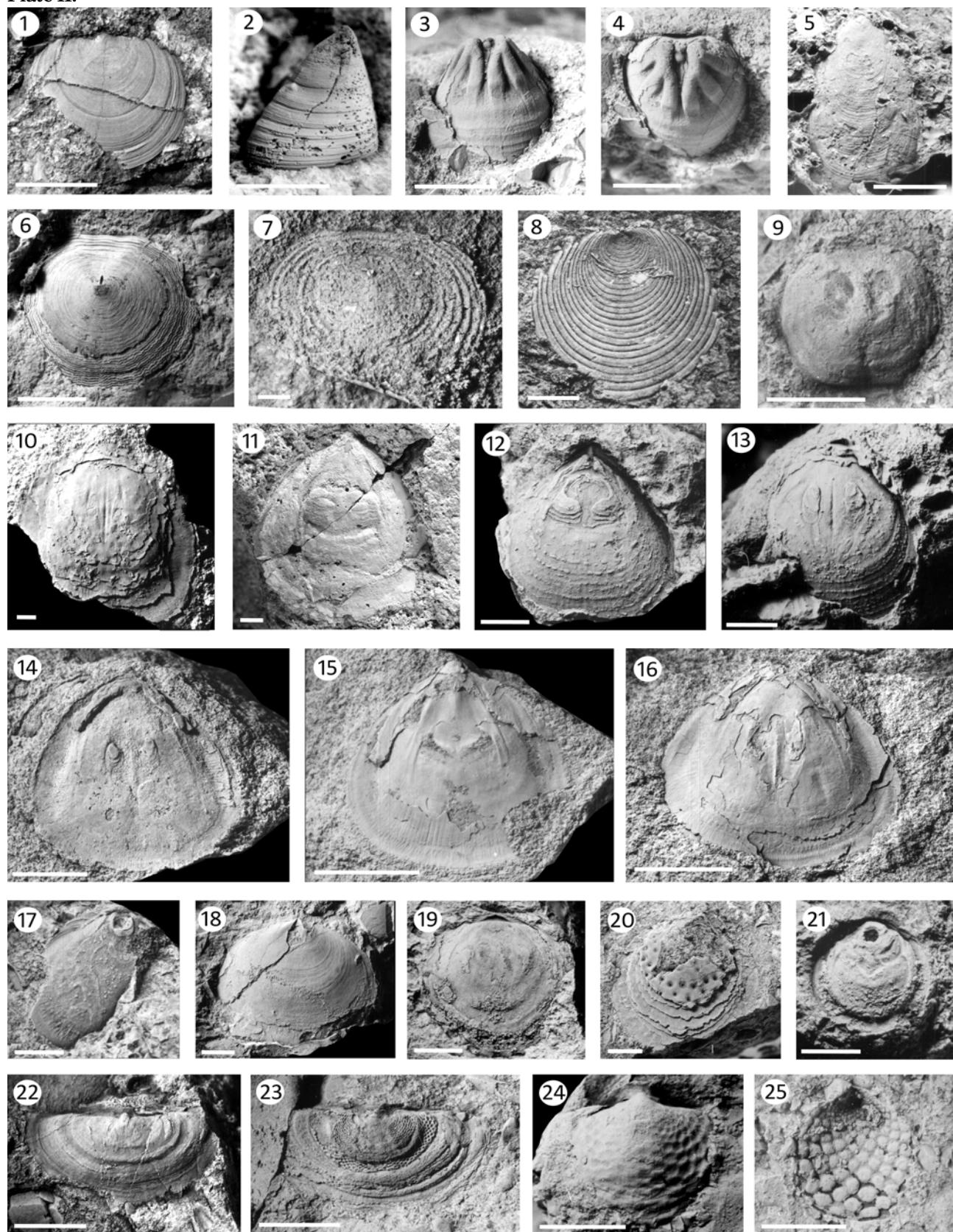


Plate III.

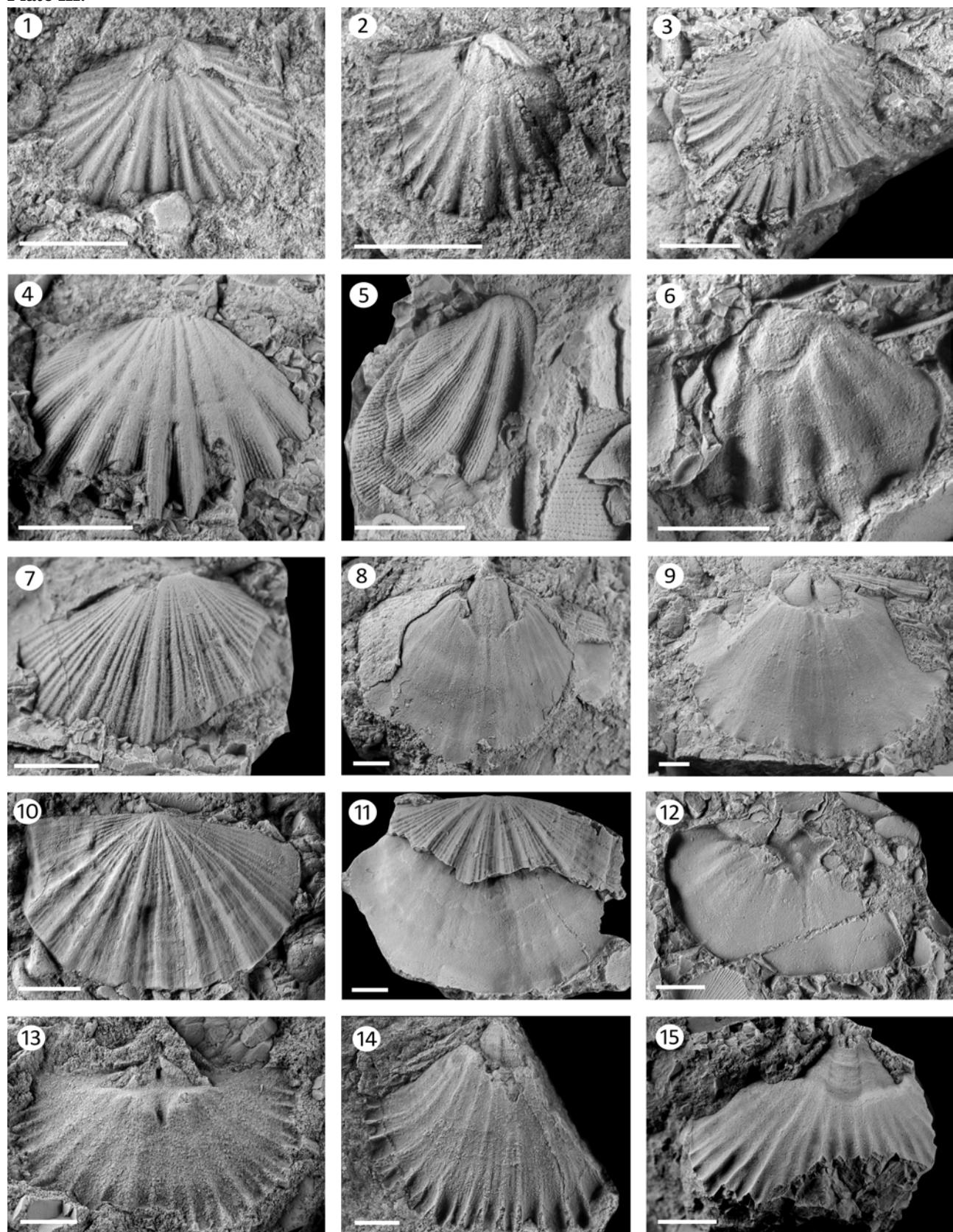


Plate IV.

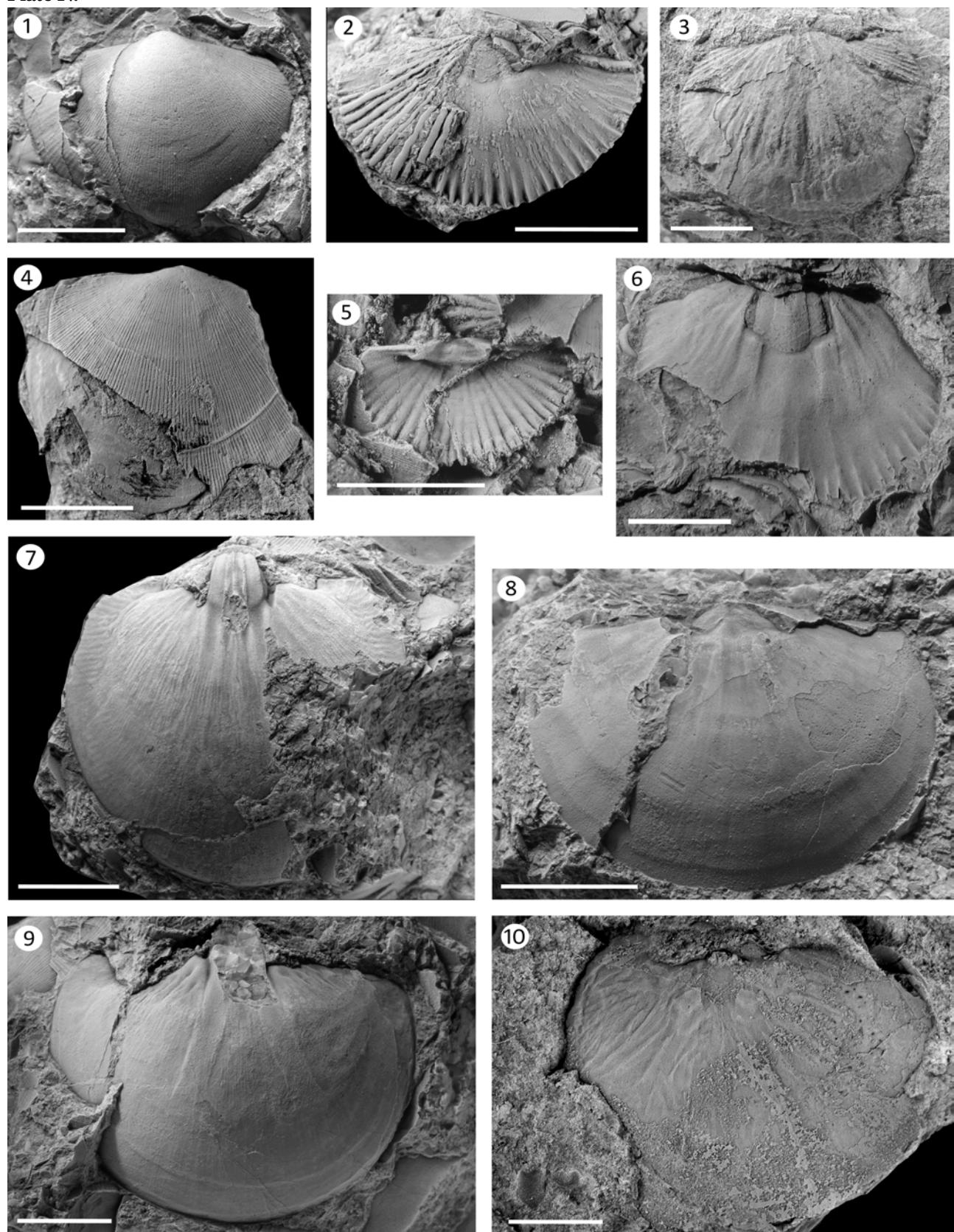


Plate V.

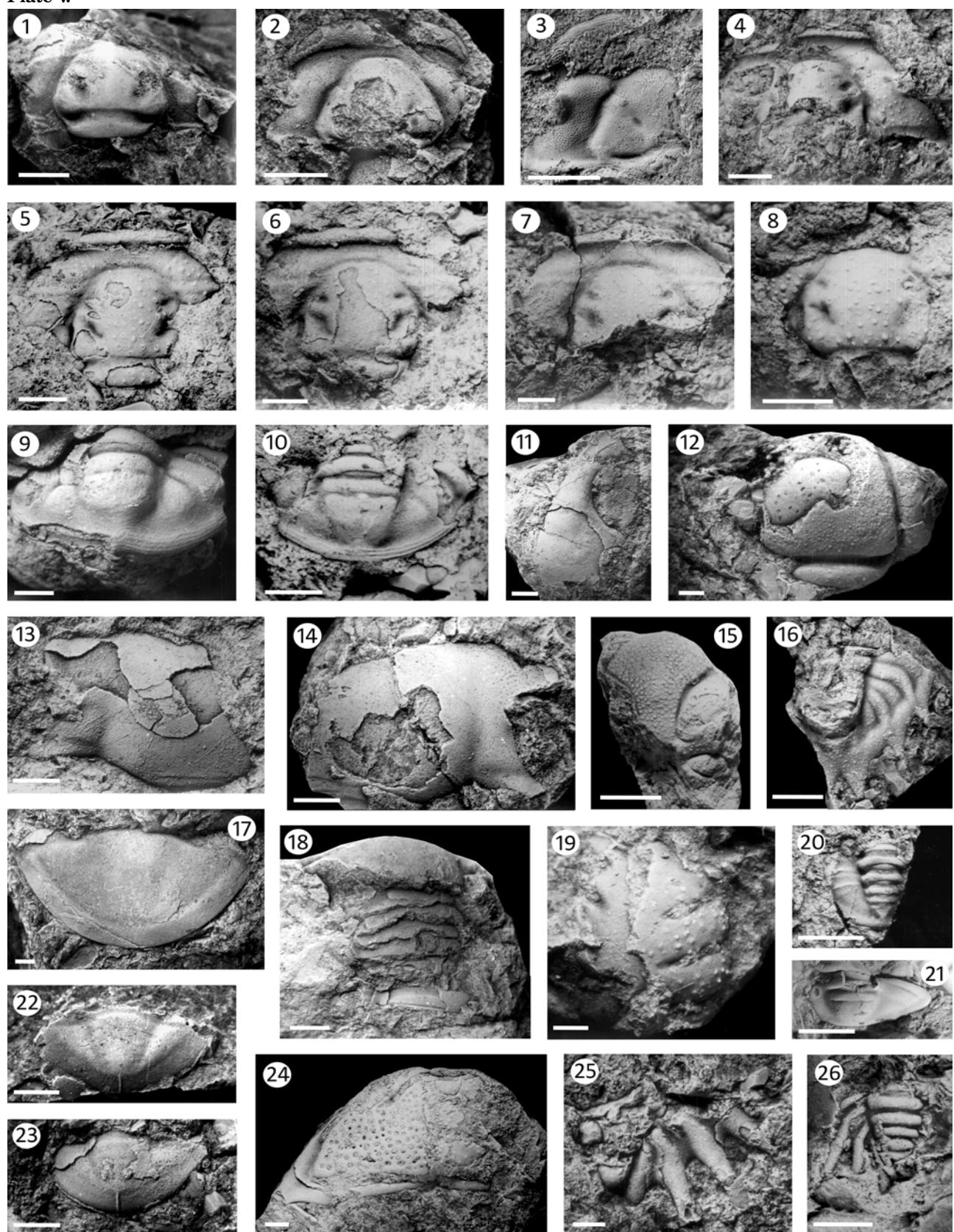
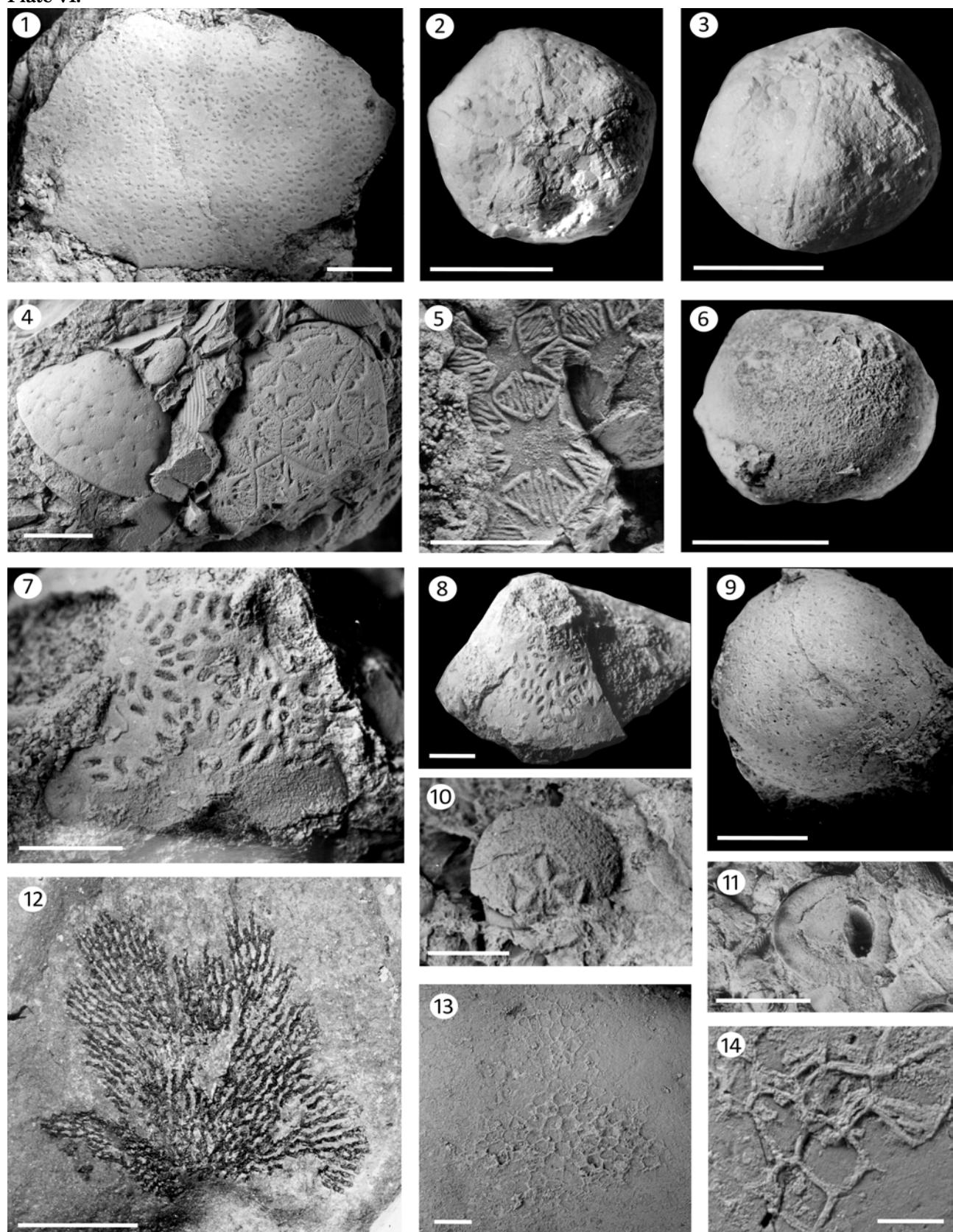


Plate VI.



Mergl (2011): Holoubkov, abandoned mine „V Ouzkém“.

Poramborhis grimmii (Barrande, 1879)

Updated list of fauna:

Cyathophycus ? sp.

Marcusodictyon exspectans Mergl, 1984

Leptembolon insons (Barrande, 1879)

Hyperobolus feistmanteli (Barrande, 1879)

Thysanotos primus (Koliha, 1924)

Broeggeria ferraria Mergl, 2002

Rosobolus robertinus Havlíček, 1982

Elkanisca obesa (Havlíček, 1980)

Ferrobolus catharinus Havlíček, 1982

Orbithele discontinua Mergl, 1981

Acrotreta grandis Klouček, 1919

Eosiphonotreta krafti (Růžička, 1927)

Siphonobolus simulans (Růžička, 1927)

Koligium kolihai (Růžička, 1927)

Lacunites walcotti (Růžička, 1927)

Petrocrania sp.

Protambonites soror (Barrande, 1879)

Poramborthis grimmii (Barrande, 1879)

Poramborthis anomala Havlíček, 1949

Poramborthis cf. *hispanica* Havlíček, 1972

Eoorthis ruzickai (Havlíček, 1949)

Jivinella postcedens Havlíček, 1949

Jivinella ? *ferrea* Havlíček, 1977

Robertorthis potens (Barrande, 1879)

Robertorthis holoubkovenensis Havlíček, 1977

Kvania prima (Havlíček, 1977)

Apheoorthina ferrigena Havlíček, 1949

Apheoorthina bohemica Havlíček, 1949

Mimospira cf. *helmhackeri* (Perner, 1900)

Ottenbyaspis broeggeri (Růžička, 1926)

Hemibarrandia holoubkovenensis (Růžička, 1926)

Agerina ferrigena (Růžička, 1926)

Agerina clymene Mergl, 2006

Holoubkovia klouceki (Růžička, 1926)

Anacheirurus bohemicus (Růžička, 1926)

Parapilekia ferrigena Mergl, 1994

Parabathycheilus krafti Mergl, 2006

Holoubkocheilus granulatus (Růžička, 1926)

? dikelokephalinid

Holubaspis perneri (Růžička, 1926)

Apatokephalus aff. *dagmarae* Mergl, 1984

Platypeltoides sp.

Eulomina mitratum (Růžička, 1926)

Proteuloma sp.

Echinospaerites concomitans Barrande, 1887

Glyptospaerites ferrigena (Barrande, 1887)

Paleospaeronites crateriformis (Růžička, 1927)

Pyrocystites sp.

Plate IV. Rhynchonelliformean brachiopods of the Třenice Formation from the Holoubkov – Ouzký locality. 1, 4, 7, 9, 10 – *Poramborthis grimmii* (Barrande, 1879), ventral valve MR 21685, dorsal valve MR 21727, ventral valve MR 21524a, ventral valve MR 21457, dorsal valve NM L 39311. 8 – *Poramborthis anomala* Havlíček, 1949, dorsal valve MR 21524b. 2, 5 – *Robertorthis holoubkovenensis* Havlíček, 1977, ventral valve MR 22574, dorsal valve MR 21690. 3, 5 – *Protambonites soror* (Barrande, 1879), dorsal valve MR 21476, ventral valve PCZCU 1899. Scale bars equal 5 mm.

Plate V. Trilobites of the Třenice Formation from the Holoubkov – Ouzký locality. 1–3 *Eulomina mitratum* (Růžička, 1926), cranidium NM L 18886, cranidium NM L 18928, cranidium NM L 18928. 4–10 – *Holoubkocheilus granulatus* (Růžička, 1926), cranidium JV 2659, cranidium NM L 18884, cranidium NM L 30822, cranidium NM L 18918, cranidium NM L 30821, pygidium JV 2656, pygidium NM L 18885. 11 – *Platypeltoides* sp., librigena NM L 38507. 12 – *Holubaspis perneri* (Růžička, 1926), cranidium JV 2471. 13, 14, 17 – *Hemibarrandia holoubkovenensis* (Růžička, 1926), cranidium NM L 18901, cranidium NM L 30824, pygidium NM L 18922. 15, 16 – *Holoubkovia klouceki* (Růžička, 1926), cranidium NM L 18909, pygidium NM L 11437. 18, 22, 23 – *Ottenbyaspis?* *broeggeri* (Růžička, 1926), cephalon with thorax NM L 18905, pygidium NM L 18921, pygidium NM L 30834a. 19, 24, 25 – *Parapilekia ferrigena* Mergl, 1994, cranidium NM L 18892, cranidium NM L 18907, pygidium NM L 18924. 20 – *Agerina ferrigena* (Růžička, 1926), pygidium NM L 18932. 21 – *Proteuloma* sp., pygidium MR 21451b. 26 – *Anacheirurus bohemicus* (Růžička, 1926), pygidium NM L 18908. Scale bars equal 2 mm.

Plate VI. Other fauna of the Třenice Formation from the Holoubkov – Ouzký (1–11, 13, 14), and Břežany – “Na Chrástnici” Quarry (12) localities. 1–3 – *Glyptospaerites ferrigena* (Barrande, 1887), large theca NM L 37999, complete theca (two views), NM L 10618. 4 – fragments of thecae of *Glyptospaerites ferrigena* (Barrande, 1887) (left) and *Echinospaerites concomitans* Barrande, 1887 (right). 3–6 – *Echinospaerites concomitans* Barrande, 1887, humatiorombs NM L 38016, complete theca NM L 13111. 7–10 – *Paleospaeronites crateriformis* (Růžička, 1927), detail of theca with peripores and the theca NM L 5847, theca NM L 38000, peristome NM L 16161. 11 – isolated columnalia NM L 38015. 12 – *Dictyonema intermedium* Prantl et Přibyl, 1949, flattened rhabdosome NM L 35552. 13, 14 – *Marcusodictyon exspectans* Mergl, 1984, zoarium encrusting a pebble and detail of zoarium, PCZCU 1897, PCZCU 1898. Scale bars equal 10 mm (1–3, 6, 9, 12), 2 mm (4, 5, 7, 8, 10, 11, 13) and 1 mm (14).



Plate VII. Main lithofacies exposed in the localities of the Třenice Formation. 1 – volcanogenic sandy conglomerate, old quarry at Cheznovice – Žlebec; 2 – Volcanogenic conglomerate enclosed within massive lithic sandstones, Kleštěnice – Jalový potok Brook; 3 – Cross-bedded middle-grained lithic sandstones, Jívina – quarries; 4 – Polymictic clast-supported conglomerate above the Cambrian fine to middle-grained quartz sandstone, basal part of the Třenice Formation, Medový Újezd; 5 – Lithic sandstones of the uppermost part of the Třenice Formation overlain by conglomerated layer (above top of the hammer) and reddish siltstones corresponding to the Klabava Formation, Medový Újezd; 6 – Strongly weathered cross-bedded sandstones with layer of volcanogenic sandstones, Cerhovice – Cerhovská hora Hill.

Horní Kvaň – field

Geography: Debris in the fields extended along a low ridge near the south margin of the village of Kvaň, some 900 m east of the monastery in Záječov. Cadastre of Kvaň, District of Beroun. Mílina Formation also occurs at this locality.

Lithology: Lithic sandstone.

Mergl (2002): Kváň (field); Kváň (pole – field).

Acrotreta grandis Klouček, 1919

Updated list of fauna:

Acrotreta grandis Klouček, 1919

Hostivice

Geography: Exact location not known, probably from no longer discernable quarry west of the centre of the town of Hostivice.

Lithology: Sandstone.

Klouček (1931a, b): Hostivice.

Obolus Feistmanteli Barr. typus

Orthis Kettneri Klou.

Havlíček (1949a): Hostivice.

Poramborthis kettneri (Klouček, 1915 MS.) n. sp.

Havlíček (1951): Hostivice.

Jivinella praecedens (Prantl a Růžička, 1941)

Poramborthis kettneri (Klouček, 1915 MS), Havlíček, 1949

Havlíček (1977): Hostivice.

Poramborthis grimmi (Barrande, 1879)

Updated list of fauna:

Poramborthis grimmi (Barrande, 1879)

Jivinella praecedens (Prantl et Růžička, 1941)

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-northeast of the centre of Jívina. Cadastre of Jívina, District of Beroun.

Lithology: Nine meters of succession exposed. Cross-bedded mid to coarse-grained greenish and brownish lithic sandstones predominate. Three meters above the base of exposed succession is a 3 to 5 centimeters thick layer of coarse-grained volcanogenic sandstone, locally with current ripples. The uppermost part of the succession fines upward into a mid to fine-grained lithic sandstone with subordinate thin (up to 2 cm thick) layers and lenses of siltstone and chert.

Remarks: The Třenice Formation outcrops in the eastern quarries from those situated along the road Jívina-Komárov. The western quarries have small outcrops of chert of the overlying Mílina Formation. The lower part of sandstone succession yielded a poor fauna, with rare *Poramborthis grimmi*. The upper part of the Třenice Formation has a distinct brownish layer, several cm thick, bearing abundant *Jivinella praecedens*, *Thysanotos primus* and chert lenses with minute, mostly undescribed acrotretaceans and siphonotretaceans. This fossiliferous level was nicely exposed in the western smaller quarry in the 1970's, but is now covered by slope debris.

? Klouček (1915): Komárov-Jívina.

Orthis Kettneri Kl. n. sp.

Obolella Feistmanteli Barr. sp.

Orthis sp. Barr.

Klouček (1919): Jívina; jižní lom na úpatí Jíviny u Komárova [southern quarry at the foot of the Jívina Hill near Komárov].

velká billingsella (orthis) radiálně rýhovaná [large radially ribbed *Billingsella* (*Orthis*)]

víčka acrotrety [opercula of *Acrotreta*]

Klouček (1920a): Jívina; sv. lomy na úpatí Jíviny u Komárova [north-western quarries at the foot of the Jívina Hill near Komárov].

Billingsella incola Barr. mut. praec.

Obolus cf. *Barrandi* Klou. n. sp.

Obolus n. sp.

Obolus Feistmanteli Barr.

Billingsella Kettneri Klou. n. sp.

Scolithus

Koliha (1924): Komárov-Jívina; Jívina.

Obolus (Lingulobolus) Feistmanteli (Barr.)

Obolus (Lingulobolus) Feistmanteli (Barr.) var.

Barrandi prima n. var.

Kraft (1928): Jívina – Komárov; lomy u silnice z Jíviny do Komárova, veliký lom nejvíce ke Komárovu [quarries near the road from Jívina to Komárov, the large quarry nearest to Komárov].

Obolus Feistmanteli

Lingulobolus Feistmanteli var. *Barrandi*

Orthis incola Barr.

Prantl & Růžička (1941): Jívina.

Billingsella incola praecedens Klouček

Obolus (Mickwitzella) barrandi primus Koliha

Havlíček (1949a): Jívina.

Jivinella praecedens (Prantl & Růžička, 1941)

Poramborthis kettneri (Klouček, 1915 MS.) n. sp.

Tritoechia kodymi n. sp.

Havlíček (1951): Jívina.

Tritoechia kodymi Havlíček, 1949

Jivinella praecedens (Prantl et Růžička, 1941)

Poramborthis kettneri (Klouček, 1915 MS), Havlíček, 1949

Havlíček (1977): Quarry near the village of Jívina; Jívina.

Protambonites soror (Barrande, 1879)

Jivinella praecedens (Prantl and Růžička, 1941)

Poramborthis grimmi (Barrande, 1879)

Havlíček (1982a): Quarry east of Jívina; Jívina (quarry between Jívina and Komárov); Jívina.

Hyperobolus feistmanteli (Barrande, 1879)

Thysanotos primus (Koliha, 1924)

Mergl (1997b): Jivina (quarries along road Jivina-Komárov); Jivina (east quarry).

Thysanotos primus (Koliha, 1924)

Mergl (2002): Jivina (old quarries); Jivina (staré lomy – old quarries).

Leptembolon insons (Barrande, 1879)

Thysanotos primus (Koliha, 1924)

Celdobolus aff. mirandus (Barrande, 1879)

Updated list of fauna:

Leptembolon insons (Barrande, 1879)

Thysanotos primus (Koliha, 1924)

Dactyloreta sp.

Celdobolus aff. mirandus (Barrande, 1879)

Protambonites soror (Barrande, 1879)

Poramborthis grimmi (Barrande, 1879)

Jivinella praecedens (Prantl et Růžička, 1941)

Jívina Hill

Geography: Natural exposures and slope debris on the east slope and the top of the Jívina Hill southwest and south of the village of Jívina. Cadastre of Jívina, District of Beroun.

Lithology: Greenish and brown-violet lithic sandstones.

Remarks: The exact site of fossiliferous layers is unknown, but near a small natural outcrops of the steep eastern slope of the hill. The remarkable fauna came from loose sandstone blocks in field east of the village of Jívina. The fossiliferous Mili-

na Formation and the Olešná Member of the Klabava Formation also occur at this locality.

Havlíček (1977): south slope of Jívina Hill.

Jivinella praecedens (Prantl and Růžička, 1941)

Mergl & Prokop (2006): Jívina, slope debris; Jívina, slope debris near the Jívina-Komárov road.

Paleosphaeronites crateriformis (Růžička, 1927)

Updated list of fauna:

Jivinella praecedens (Prantl et Růžička, 1941)

Paleosphaeronites crateriformis (Růžička, 1927)

Kleštěnice – Jalový potok Brook

Geography: Natural outcrops 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. Outcrops of the Třenice Formation extend from the farm V Rochtě some 250 m up the stream along the brook. Cadastre of Kleštěnice, District of Beroun.

Lithology: Fine to middle-grained massive and cross-bedded sandstones with lenticular intercalation of volcanogenic conglomerate. Cross-bedded sandstone contains decimeters thick beds of cross-bed sets. Beds are separated by flat erosional surface. Massive sandstone forms beds with thickness from 30 centimeters to 1 meter and have erosional bases. Locally isolated pebbles of volcanic rocks occur above the bases of beds.

Volcanogenic conglomerate is generally matrix-supported, poorly sorted, with rhyolite subangular to subrounded pebbles up to 5 cm of diameter. Rarely the clasts of rhyolitic ignimbrite are also present (Hroch *et al.* 2012). Matrix is formed by clayey and sandy siltstone with angular fragments of volcanic glass. Conglomerate is without sedimentary structures and forms lenticular beds up to 35 cm thick and few meters to several tens of meters wide.

Remarks: Thick layers of the lithic sandstones outcrop in N part of the steep slope. Thick chert beds of the Mlina Formation and the Olešná Member of the Klabava Formation also occur at the locality. Fossils are very rare and poorly preserved.

Mergl (2002): Kleštěnice (section along the Jalový potok creek); Kleštěnice (profil podél Jalového potoka – section along the Jalový potok creek).

Thysanotos primus (Koliha, 1924)

Updated list of fauna:

Thysanotos primus (Koliha, 1924)

Krušná hora – Gabriela Mine

Geography: Dumps of the abandoned iron ore Gabriela Mine located on the south-western slope of Krušná hora Hill near the village of Hudlice. Cadastre of Hudlice, District of Beroun.

Lithology: Greenish lithic sandstone.

Remarks: Large mine dump yielded abundant fossils of the Třenice Formation but fossils of the Klába Formation can be sampled there, as well.

Mergl (2002): Krušná hora (Gabriela mine); Krušná hora (důl Gabriela – Gabriela mine).

Hyperobolus feistmanteli (Barrande, 1879)

Updated list of fauna:

Hyperobolus feistmanteli (Barrande, 1879)

Krušná hora – gallery

Geography: Dumps of abandoned mines on the eastern and northern slopes of Krušná hora Hill south of the village of Nový Jáchymov. Cadastre of Hudlice, District of Beroun.

Lithology: Greenish lithic sandstone.

Remarks: The locality is famous for nicely preserved large obolids, often with the original phosphatic shells. Judging from the stored material, fossils were common in particular layers. Fossils have been collected from small outcrops on the north slope of the Krušná Hora, but the exact location of outcrops from which they were obtained is unknown now. The best unweathered specimens, figured by Barrande (1879), were likely collected directly within the galleries of the mine when active in the mid of 19th century.

Koliha (1918): Krušná Hora (Dědičná štola) [Krušná Hora (Hereditary gallery)].

Obolus (Lingulobolus) Feistmanteli (Barr.) var. *tenuilamellosa* n. var.

Koliha (1924): Františkova dědičná štola u Otročína [František's hereditary gallery near Otročín].

Obolus (Lingulobolus) Feistmanteli (Barr.)

Lingulella expulsa (Barr.)

Mergl (2002): Krušná hora (gallery).

Expellobolus expulsus (Barrande, 1879)

Hyperobolus feistmanteli (Barrande, 1879)

Orbithele secedens (Barrande, 1879)

Updated list of fauna:

Expellobolus expulsus (Barrande, 1879)

Hyperobolus feistmanteli (Barrande, 1879)

Orbithele secedens (Barrande, 1879)

Krušná hora Hill

Geography: Exact localities unknown on Krušná hora Hill. Cadastre of Hudlice, District of Beroun.

Lithology: Lithic sandstone.

Remarks: There are numerous references to the Krušná hora locality without detailed locality data. The fossils likely derived from 19th century mine dumps. Unfortunately, old collections often lack any details of the sampling sites.

Lipold (1863): Krušná hora.

Lingula Feistmantelli

Vála & Helmhaber (1872): Krušná hora.

Lingula Feistmanteli Barr.

Vála & Helmhaber (1874): Krušná hora
Lingula Feistmanteli Barr.

? Feistmantel (1878): Kruschna hora.

Discina

einen andern *Obolus*-artigen Brachiopoden [another species of brachiopod *Obolus*]

Barrande (1879): Kruschna Hora.

Lingula Feistmanteli. Barr.

Lingula expulsa. Barr.

Discina secedens. Barr.

Discina sodalis. Barr.

Katzer (1892): Krušná hora

Lingula Feistmanteli. Barr.

Jahn (1904a, 1904b): Krušná Hora

Obolella Feistmanteli

Koliha (1924): Krušná hora.

Obolus (Lingulobolus) Festmanteli (Barr.)

Lingulella expulsa (Barr.)

Mergl (1981): Krušná hora at Nový Jáchymov;
Krušná hora.

Orbithele secedens (Barrande, 1879)

Havlíček (1982a): Krušná hora near Nový Jáchymov; Krušná hora.

Hyperobolus feistmanteli (Barrande, 1879)

Expellobolus expulsus (Barrande, 1879)

Orbithele secedens (Barrande, 1879)

Updated list of fauna:

Hyperobolus feistmanteli (Barrande, 1879)

Expellobolus expulsus (Barrande, 1879)

Orbithele secedens (Barrande, 1879)

Libečov – Na močidle

Geography: Natural outcrops in the valley of the Chyňavský potok Brook some 600 m north-north-east the village of Libečov, 7.7 km north-north-east from the square in Beroun. Cadastre of Libečov, District of Beroun.

Lithology: Fine-grained sandstone.

Remarks: Fossils are abundant in fine-grained, laminated sandstones with accumulation pavements. Preservation is excellent, with original shell substance.

Vála & Helmhaber (1872): močidlo východně od Libečova [“Močidlo” east of Libečov]; severovýchodně od Libečova na potoku Chyňavském na onom místě, kde zahýbá se [north-eastern of Libečov in the meander of the Chyňava Brook].

Lingula lamellosa Barr.

Vála & Helmhaber (1874): Močidlo östlich von Libečov [“Močidlo” east of Libečov]; nordöstlich von Libečov am Chyňavabache, an jenem Orte, wo sich dieser biegt [north-eastern of Libečov in the meander of the Chyňava Brook].

Lingula lamellosa Barr.

Barrande (1879): Libetschov; Libetschow.

Lingula Arachne Barr.

Lingula variolata Barr.

Lingula lamellosa Barr.

Lingula eximia Barr.

Krejčí & Helmhaber (1879): am Bache bei Libečov (Na močidle) [by brook near Libečov (Na močidle)].

Lingula lamellosa Barr.

Krejčí & Helmhaber (1885): u potoka blíže Libečova [by brook near Libečov]; Močidlo (see Fig. 9 in the original paper).

Lingula lamellosa Barr.

Katzer (1892): Libečov

Lingula lamellosa Barr.

Jahn (1904a): „Na močidlech“ u Libečova [“Na močidlech” near Libečov]

Obolella (Lingula) Feistmanteli Barr. sp.

Obolella n. sp.

Lingula variolata Barr. nov. var.

Lingula expulsa Barr.

Lingula n. sp.

Lingula n. sp.

Lingula n. sp.

Lingula n. sp.

Discina sodalis Barr.

Discina n. sp.

Discina n. sp.

Acrothele secedens Barr. sp.

Lingula lamellosa Barr.

Lingula n. sp.

Cf. *Glotidia* n. sp.

Jahn (1904b): „Na močidlech“ bei Libečov [“Na močidlech” near Libečov]

Lingula Arachne Barr.

Lingula eximia Barr.

Lingula variolata Barr.

Obolella (Lingula) Feistmanteli Barr. sp.

Obolella n. sp.

Lingula variolata Barr. nov. var.

Lingula expulsa Barr.

Lingula n. sp.

Lingula n. sp.

Lingula n. sp.

Lingula n. sp.

Discina sodalis Barr.

Discina n. sp.

Discina n. sp.

Acrothele (Discina) secedens Barr. sp.

Lingula lamellosa Barr.

Lingula n. sp.

cf. *Glotidia* n. sp.

Woldřich (1916): Od Libečova na SSV, „Na močidle“ [NNE of Libečov, “Na močidle”]; (odkryvy) dole u potoka, nahore u cesty a na svahu jižně od kóty 361 [(outcrops) down by brook, up by road and on the slope south of elevation point 361].

Lingula lamellosa Barr.

Lingula obrys trojúhelníkového, připomínající *Obolella Feistmanteli* Barr. [*Lingula* of the triangular outline resembling *Obolella Feistmanteli* Barr.]

zcela nový druh Linguly, dole široký, nahore silně zúžený a protažený neuvedený ve velkém díle Barrande-ové [completely new species of *Lingula*, wide in its lower part, strongly narrowed in the upper part and elongated, not mentioned in the enormous work of Barrande]

Koliha (1918): Libečov.

Lingulella libečvensis n. sp.

Klouček (1920a): pole na levém břehu potoka na Močidle [field on the left brook bank in Močidlo]. fragment nového obola [fragment of a new *Obolus*]

eliptická miska menšího, snad rovněž nového lingulida [oval valve of a smaller, perhaps also new lingulid]

Koliha (1924): Libečov, lokalita zvaná „Na Močidle“ v údolí Chýňavského potoka [Libečov, locality called “Na Močidle” in the valley of the Chýňavský potok Brook]; „Na močidle“ u Libečova [“Na močidle” near Libečov].

Obolus (Westonia) lamellosus (Barr.)

Lingulella arachne (Barr.)

Heritsch (1928): Libečov.

Obolus lamellosus

Lingulella Arachne

? Koliha (1930a, 1930b): Libečov.

Obolus lamellosus (Barr.)

Havlíček (1982a): Libečov („Na močidle“); Libečov; Libečov (Na močidle).

Westonisca lamellosa (Bararnde, 1879)

Westonisca arachne (Barrande, 1879)

Mergl (1997a): Libečov („Na močidle“); „Na močidle“, Libečov.

Westonisca lamellosa (Barrande, 1879)

Libecoviella arachne (Barrande, 1879)

Mikuláš (2001): Libečov (stará lokalita na Močidlech u Chýňavského potoka) [Libečov (old locality na Močidlech near Chýňavský potok Brook)].

Planolites isp.

Phycodes isp.

Westonisca lamellosa (Barrande)

Poramborthis grimmii (Barrande)

Mergl (2002): Libečov (Na Močidle locality); Libečov (Na Močidle).

Libecoviella arachne (Barrande, 1879)

Westonisca lamellosa (Barrande, 1879)

Updated list of fauna:

Libecoviella arachne (Barrande, 1879)

Westonisca lamellosa (Barrande, 1879)

Libečov – gallery

Geography: Dump of the former gallery mine in the valley of Chýňavský potok Brook. Cadastre of Libečov, District of Beroun.

Lithology: Sandstone.

? Vála & Helmhaber (1872): v obci Chýňavské blízko spojených cest, nejvýchodnější do Železné

z Chyňavy vedoucí s cestou z Libečova k západu vedoucí a sice západně vedle cesty prve; Libečovská štola kutní [in the village of Chyňava, near junction of roads, that of easternmost from Železná to Chyňava and that from Libečov to west, locality is west of the former road; Libečov gallery]. malíčký *Obolus* sp. (posud nepopsaný) [minute *Obolus* sp. (undescribed yet)]

? Vála & Helmhaber (1872): šachta číslo I ve Svárově [Mine No. I in Svárov].

Obolus sp.

Discina sp.

snad *Syphonotreta* sp. [perhaps *Syphonotreta* sp.]

? Vála & Helmhaber (1872): šachta Svárovská III [Mine No. III in Svárov].

Obolus sp.

? Vála & Helmhaber (1874): in der Gemeinde Chyňava in der Nähe der vereinigten Wege, dem östlichen, welcher nach Železná und Chyňava führt, mit dem aus Libečov gegen Westen führenden, und zwar westlich neben ersterem Wege; Libečover Schurfstollen [in the village Chyňava, near junction of roads, that of easternmost from Železná to Chyňava and that from Libečov to west, locality is west of the former road; Libečov gallery]. klein *Obolus* sp. (bis jetzt noch unbeschrieben) [minute *Obolus* sp. (undescribed yet)]

? Vála & Helmhaber (1874): Schachte Nro. I in Svárov [Mine No. I in Svárov].

Obolus sp.

Discina sp. (ähnlich der *Discina attenuata* Barr.) [*Discina* sp. (similar to *Discina attenuata* Barr.)] vielleicht *Syphonotreta* sp. [perhaps *Syphonotreta* sp.]

? Vála & Helmhaber (1874): Svárover Schachte Nro. III [Mine No. III in Svárov].

Obolus sp.

? Krejčí & Helmhaber (1879): Svárov, Kamenná unweit Chýňava (W. Libečov) [Svárov and Kamenná near Chýňava (west of Libečov)].

Obolus

Discina

? Krejčí & Helmhaber (1885): Svárov a Kamenná u Chýňavy (Z od Libečova) [Svárov and Kamenná near Chýňava (west of Libečov)].

Obolus

Discina

Krejčí & Feistmantel (1890): Svárov.
Lingula lamellosa

Woldřich (1916): rokle na Chrbině [a gully in Chrbina].

Lingula podobná *Obolella Feistmanteli* [*Lingula* similar to *Obolella Feistmanteli*]

? Woldřich (1916): Chrbina; štola Chrbinská [Chrbina Gallery].

četné zbytky ramenonožců [common fragments of brachiopods]

Klouček (1920a) štola Chrbinská [Chrbina Gallery].
Obolus lamellosus Barr.

Koliha (1924): Chrbina.

Obolus (Westonia) lamellosus (Barr.)

Mergl (1997a): Libečov (the dump of an Chrbina gallery).

Westonisca lamellosa (Barrande, 1879)

Mergl (2002): Chrbina (gallery); Chrbina (štola – gallery).

Westonisca lamellosa (Barrande, 1879)

Updated list of fauna:

Westonisca lamellosa (Barrande, 1879)

Medový Újezd

Geography: Abandoned quarry on the south-western slope of the hill in the north-eastern of the centre of the village of Medový Újezd, above Medoujezdký potok Brook. Protected area of PP Medový Újezd. Cadastre of Medový Újezd, District of Rokycany.

Lithology: A 16 meters succession of the complete Třenice Formation. It is transgressive sitting on the Cambrian sandstone of the Ohrazenice Formation bounded by an unconformity. Its top is overlain by a 30 cm thick layer of sandy conglomerate corresponding to the base of the Klabava Formation. A basal polymictic, clast-supported conglomerate of the Třenice Formation contains subrounded to rounded pebbles of rhyolite, quartz and the Neoproterozoic chert, matrix is formed by coarse to very coarse lithic sandstone. Cobbles are rare at the base of the unit. The basal conglomerate, 50–70 cm thick, fines upward into a cross-bedded lithic sandstone. This sandstone forms the main part of exposed succession. It is coarse-grained, the quartz grains and lithic fragments of volcanics and Neoproterozoic cherts and siltstones are the main

components of clastic material. Volcanic glass fragments are locally present.

Remarks: The Třenice Formation is underlain by the poorly fossiliferous middle Cambrian and overlain by the Olešná Member of the Klabava Formation at this locality. Fossils are generally rare and poorly preserved in coarse sandstone.

Lipold (1863): Medo-Aujesd.

Lingula Feistmantelli Barr.

Koliha (1924): Medový Újezd u Holoubkova [Medový Újezd near Holoubkov].

Obolus (Lingulobolus) Feistmanteli (Barr.)

Kraft (1928): Medový Újezd; profil na severní straně vsi [section in the northern margin of the village].

Obolus Feistmanteli

Mergl (1997b): Medový Újezd (old quarry).

Thysanotos primus (Koliha, 1924)

Mergl (2002): Medový Újezd (quarry); Medový Újezd (lom – quarry).

Hyperobolus feistmanteli (Barrande, 1879)

Thysanotos primus (Koliha, 1924)

Updated list of fauna:

Hyperobolus feistmanteli (Barrande, 1879)

Thysanotos primus (Koliha, 1924)

Orbithele secedens (Barrande, 1879)

Medový Újezd – Hradiště

Geography: Outcrops in an abandoned, small, shallow quarry on the hill south-eastern of the village. Cadastre of Medový Újezd, District of Rokycany.

Lithology: Lithic sandstone.

Havlíček (1982a): Hradiště near Medový Újezd.

Hyperobolus feistmanteli (Barrande, 1879)

Updated list of fauna:

Hyperobolus feistmanteli (Barrande, 1879)

Popovice – Marešovka Quarry

Geography: Small, abandoned, flooded quarry 880 m west-north-west of the crossing of roads in the centre of the village of Popovice, 3 km west-south-west of the railway station in the town of Brandýs nad Labem, 17 km north-east of Prague's city centre. (Coordinates read from the map: N 50° 10' 44", E 14° 36' 47".) Cadastre of Popovice u Brandýsa n. Lab., District of Praha-východ.

Lithology: Coarse to fine, poorly bedded, sandstone.

Remarks: Well exposed sandstone with rare fossils.

Vaněk (1999): Abandoned quarry "Marešovka".

inarticulate brachiopods (not determinable)

Bavarilla cf. hofensis (Barrande)

Updated list of fauna:

Bavarilla cf. hofensis (Barrande, 1868)

Skomelno – Na Solích

Geography: Old mine dumps in the forest on the slope of Na Solích Hill ~ 1.5 km east of the village of Skomelno. Cadastre of Vejvanov, District of Rokycany.

Lithology: Greenish volcanogenic clastics, some with haematitic cement.

Remarks: Fossils are frequent, with dominance of *Acrotreta* and small stromatolitic clasts.

Havlíček (1980): Skomelno (Na Solích).

Conotreta obesa sp. n.

Mergl (1994a): Skomelno, a dump of abandoned mine "Na Solích"; Skomelno.

Elkanisca obesa (Havlíček, 1980)

Mergl (2002): Skomelno (Na Solích).

Leptembolon insons (Barrande, 1879)

Elkanisca obesa (Havlíček, 1980)

Ferrobolus catharinus Havlíček, 1982

Orbithele discontinua Mergl, 1981

Acrotreta grandis Klouček, 1919

Updated list of fauna:

Leptembolon insons (Barrande, 1879)

Elkanisca obesa (Havlíček, 1980)

Ferrobolus catharinus Havlíček, 1982

Orbithele discontinua Mergl, 1981

Acrotreta grandis Klouček, 1919

Svárov

Geography: Exact locality unknown.

Katzer (1892): Svárov

Lingula lamellosa Barr.

Koliha (1924): Chrbina.

Obolus (Westonia) lamellosus (Barr.)

Updated list of fauna:

Westonisca lamellosa (Barrande, 1879)

Těškov – Kněžský vrch Hill (quarry)

Geography: Upper levels of the active quarry (now gone due to quarry activity) at Kněžský vrch Hill 1.2 km north-east of the chapel in the village of Těškov. Cadastres of Těškov and Lhota pod Radčem, District of Rokycany.

Lithology: Lithic sandstone with angular large clasts of rhyolite.

Remarks: Fossils are extremely fragmentary, forming the abundant bioclastic admixture in lithic sandstone. Collecting at this locality is not possible at the present time.

Mergl (2002): Těškov (Kněžský vrch Hill); Těškov (Kněžský vrch – Kněžský vrch Hill).

Elkanisca obesa (Havlíček, 1980)

Acrotreta grandis Klouček, 1919

Updated list of fauna:

Elkanisca obesa (Havlíček, 1980)

Acrotreta grandis Klouček, 1919

Těškov – north-west of the village

Geography: Isolated blocks of the rock north-west of the village of Těškov. Cadastre of Těškov, District of Rokycany.

Lithology: Coarse-grained lithic sandstone.

Remarks: Exact site is unknown.

Andrusov (1925): Menší výskyt u vsi Těžkova [Limited occurrence near the village of Těžkov].

Obolus Feistmanteli Barr.

Updated list of fauna:

Hyperobolus feistmanteli (Barrande, 1879)

Týček

Geography: Old, abandoned quarry "Na Čihadlo" ~ 1.3 km south-east of the village of Týček. Cadastre of Týček, District of Rokycany.

Lithology: Lithic sandstone.

Koliha (1924): Tejček u Zbiroha [Tejček near Zbiroh]; lom na Čihadlo u Tejčku [a quarry at Čihadlo near Tejček].

Obolus (Lingulobolus) Feistmanteli (Barr.)

Kraft (1928): Čihadlo u Týčka [Čihadlo near Týček].

Obolus (Lingulobolus) Feistmanteli

Mergl (2002): Tejček.

Hyperobolus feistmanteli (Barrande, 1879)

Updated list of fauna:

Hyperobolus feistmanteli (Barrande, 1879)

Úvaly – shaft

Geography: Shaft and related mine dumps along the western margin of the town of Úvaly. Cadastre of Úvaly u Prahy, District of Praha-východ.

Lithology: Lithic sandstone.

Remarks: All fossils were sampled in the first half of the 20th century. At present, the area is strongly urbanized and exact location of the sampled dumps cannot be determined. The fossils are poorly preserved, often tectonically deformed, as such, are lacking fine detail. The overlying Mílina Formation also occurs at this locality

Klouček (1920b): Ouvaly, 1 km západně od Ouvaly [1 km west of Úvaly].

Obolus feistmanteli Barr. typus 3 – 4 nové variетe [Obolus feistmanteli Barr. typus and 3–4 new varieties]

Obolus f. Barrandei Klou. n. sp. [f. = probably cf.]
Billingsella incola Barr. mut. praec. Klou.

Billingsella n. sp. jemně brázděná a velká jako *B. incola* [*Billingsella* n. sp. delicately wrinkled and of the same size as *B. incola*]

Billingsella n. sp. přes 3 cm dlouhá a 1,5 široká [*Billingsella* n. sp. more than 3 cm long and 1.5 cm wide]

Billingsella n. sp. 1,5 cm dlouhá a 2,5 široká [*Billingsella* n. sp. 1.5 cm long and 2.5 cm wide]

Billingsella n. var. jako předešlá, ale dlouhá jako široká [as previous but as long as wide]

Lingulella n. sp.?

Orbiculoides undulosa? Barr.

Acrotreta minima Barr.

Havlíček (1949a): Úvaly.

Jivinella praecedens (Prantl & Růžička, 1941)

Nanorthis rara n. sp.

Tritoechia kolihai n. sp.

Tritoechia kodymi n. sp.

Tritoechia uvalica n. sp.

Havlíček (1950): Pokusná šachtice na okraji škvorecké obory [Test shaft in the margin of Škvorec Game Preserve].

Thysanotos barrandei barrandei (Klouček)

Thysanotos barrandei primus (Koliha)

Lingulobolus feistmanteli minor Prantl a Růžička

Obolus giganteus Koliha

Tritoechia kolihai Havlíček

Tritoechia kodymi Havlíček

Tritoechia uvalica Havlíček

Nanorthis rara Havlíček

Jivinella praecedens (Prantl a Růžička)
neurčení zástupci rodu *Lingulella* Salter [undetermined members of genus *Lingulella* Salter]
neurčení zástupci rodu *Orbiculoides* D'Orbigny [undetermined members of genus *Orbiculoides* D'Orbigny]

Havlíček (1977): Úvaly (reddish sandstone).

Protambonites soror (Barrande, 1879)

Nanorthis rara Havlíček, 1949

Havlíček (1982a): test-pit west of Úvaly; Úvaly (test pit), Úvaly.

Thysanobolus giganteus (Koliha, 1937)

Thysanobolus pirolus sp. n.

Thysanotos primus (Koliha, 1924)

Vaněk (1999): Waste dump near the iron ore shaft west of Úvaly; locality No. 8.

Only references to older finds.

Mergl (2002): Úvaly (old dump); Úvaly (Stará halda – old dump).

Thysanotos primus (Koliha, 1924)

Updated list of fauna:

Thysanotos primus (Koliha, 1924)

Protambonites soror (Barrande, 1879)

Nanorthis rara Havlíček, 1949

Úvaly

Geography: Localities known only to be near the town of Úvaly. Cadastre of Úvaly u Prahy, District of Praha-východ.

Lithology: Sandstone.

Remarks: Mílina Formation also occurs at this site (first published by Klouček 1922a, 1922b). Updating the taxonomic list is not possible as there are no new data since the last study by Koliha in 1920's (references see below).

Krejčí & Helmhaber (1879): zwischen dem Jägerhaus W. von Ouval und in Ouval selbst [between gamekeeper's lodge west of Ouvaly and Ouvaly itself].

Lingula lamellosa Barr.

Krejčí & Helmhaber (1885): Ouvaly a Z od Ouvaly u Fidrholce [Ouvaly and west of Ouvaly near Fidrholec].

Lingula lamellosa Barr.

Koliha (1924): Ouvaly.

Obolus (Lingulobolus) Feistmanteli (Barr.)

? Koliha (1926a, 1926b): Ouvaly.

Obolus cf. feistmanteli
orthidi

? Heritsch (1928): Ouvaly.

Obolus Feistmanteli

Zbiroh – Bukov (old dump)

Geography: Old mine dump on the north-western slope of the Bukov Hill ~ 2.2 km south-west of the church at the town square in Zbiroh (N 49° 50' 27.4" E 13° 44' 49.9"). Cadastre of Zbiroh, District of Rokycany.

Lithology: Graded conglomerate.

Remarks: Almost all fossils came from haematite cemented conglomerate sampled by C. Klouček in 1920's. The only small fragment of a brachiopod shell was discovered later, in 1980's by one of us (M.M.), confirming the original sampling site. Only one species is present, often crushed, but the preservation of shell details is excellent.

Klouček (1924): Bukov; Bukov u Zbirohu [Bukov Hill near Zbiroh].

Obolus lamellosus Barr.

Lingulella Arachne (*Lingulella libečovensis* Koliha)

Andrusov (1925): Hromady u kóty 550 na západ. svahu Bukova [Dumps near elevation point 550 on the western slope of the Bukov Hill].

Obolus lamellosus Barr.

Lingulella Arachne (*libečovensis* Koliha)

Kraft (1928): Bukov u Zbiroha [Bukov near Zbiroh]; dvě hromady u Josefského dolu [two dumps near the Josef Mine].

Obolus (Westonia) lamellosus Barr.

Lingulella Arachne Barr.

Havlíček (1982a): South-eastern foot of Bukov Hill near Zbiroh.

Westonisca ovata sp. n.

Mergl (1997a): Northern slope of Bukov Hill near Zbiroh, the dump of an old abandoned test pit; old test pit in N slope of Bukov Hill near Zbiroh.

Libecoviella ovata (Havlíček, 1982)

Mergl (2002): Zbiroh (Bukov, old dump); Zbiroh (Bukov, stará halda – Bukov, old dump).

Libecoviella ovata (Havlíček, 1982)

Updated list of fauna:

Libecoviella ovata (Havlíček, 1982)

Zbiroh – Bukov (quarries)

Geography: Two areas; the abandoned quarries on the southern slope of the Bukov Hill ~ 2.4 km south-west of the church at the town square in Zbiroh and the abandoned quarry at the north-north-eastern foot of Bukov Hill near the path to Švabín. Cadastre of Zbiroh, District of Rokycany.

Lithology: Lithic sandstone lying on conglomerate.

Remarks: Several quarries of variable size are present on south and south-east slope of the Bukov Hill, some partially to completely filled by garbage and debris. Quarries are also wooded over, thus, the exact sampling sites are not known. The locality with a well preserved fauna in fine-grained haematitic sandstone is likely from the most eastward quarry.

Lipold (1863): Bukow, nach Südost getriebene Josephstollen [Bukow, the Josef Gallery digged south-eastward].

Lingula Feistmantelli Barr.

Klouček (1917): opuštěný menší lom na s.s.v. úpatí Bukova [abandoned small quarry at the north-north-eastern foot of the Bukov Hill].

var. druhu *Obolus? minimus* Barr.? [variety of the species *Obolus? minimus* Barr.?]

několik nových druhů brachiopodů, mezi nimiž jsou obolely, acrtotreta, acrothele (?) a snad i barroiselly [several new species of brachiopods, *Obolella*, *Acrotreta*, *Acrothele* (?) and perhaps *Barroisella* are among them]

Obolella Feistmanteli Barr.

Lingula (?) expulsa Barr.

Discina undulosa Barr.

Klouček (1919): Bukov.

Obolus Feistmanteli Barr.

Lingulella? expulsa Barr.

Lingulella? n. sp. I

Orbiculoida sodalis Barr.

Orbiculoida undulosa Barr.

Acrotreta minima var. *grandis* Klou. n. sp.

Acrotreta minima Barr.

Lingulella n. sp. II

Klouček (1920a): sv. malý lom na úpatí Bukova u Zbirohu [small quarry at the north-eastern foot of the Bukov Hill near Zbiroh].

Ob. Feistmanteli

Orb. sodalis

Lingul. expulsa

Koliha (1924): Bukov; Bukov u Zbirohu.
Obolus (Lingulobolus) Feistmanteli (Barr.)
Lingulella bukovensis n. sp.
Lingulella expulsa (Barr.)
Orbiculoides sodalis
Acrotreta sp.

Andrusov (1925): Kota 491 na vých. úpatí Bukova [Elevation point 491 at the eastern foot of Bukov Hill].

Obolus Feistmanteli Barr.
Lingulella expulsa Barr.
Lingulella n. sp. I
Lingulella n. sp. II
Orbiculoides sodalis Barr, sp.
Orbiculoides undulosa Barr, sp.
Acrotreta minima Barr.
Acrotreta minima var. *grandis* Klouček
Orthis (Billingsella) incola var. *praec.* Klouček

Kraft (1928): Bukov u Zbiroha [Bukov near Zbiroh]; lom při cestě vpravo od myslivny na jižním svahu Bukova [quarry near the road, right of the game-keeper's lodge on the southern slope of the Bukov Hill].

Obolus Feistmanteli

Kraft (1928): Bukov u Zbiroha [Bukov near Zbiroh].
Obolus Feistmanteli
Orthis incola
Discina sodalis – velká i malá varieta [*Discina sodalis* – large as well as small varieties]
Acrotreta minima
Acrotreta minima var. *grandis*

Havlíček (1980): Bukov Hill near Zbiroh.
Conotreta grandis (Klouček, 1915)

Havlíček (1982a): Bukov near Zbiroh; south-eastern foot of Bukov Hill near Zbiroh, Bukov Hill near Zbiroh.

Rosobolus robertinus Havlíček, 1982
Thysanobolus pirolus sp. n.
Palaeoglossa bukovensis (Koliha, 1924)

Mergl (2002): Zbiroh (Bukov, old quarries); Zbiroh (staré lomy – old quarries).

Expellobolus expulsus (Barrande, 1879)
Teneobolus bukovensis (Koliha, 1924)
Hyperobolus feistmanteli (Barrande, 1879)
Orbithele secedens (Barrande, 1879)
Acrotreta grandis Klouček, 1919

Updated list of fauna:
Expellobolus expulsus (Barrande, 1879)
Teneobolus bukovensis (Koliha, 1924)
Hyperobolus feistmanteli (Barrande, 1879)
Acrotreta grandis Klouček, 1919
Orbithele secedens (Barrande, 1879)

Updated list of fauna of the Třenice Formation

Porifera
Cyathophycus ? sp.
? Bryozoa
Marcusodictyon exspencans Mergl, 1984
Brachiopoda
Expellobolus expulsus (Barrande, 1879)
Leptembolon insons (Barrande, 1879)
Libecoviella arachne (Barrande, 1879)
Libecoviella ovata (Havlíček, 1982)
Teneobolus bukovensis (Koliha, 1924)
Westonisca lamellosa (Barrande, 1879)
Hyperobolus feistmanteli (Barrande, 1879)
Thysanotos primus (Koliha, 1924)
Broeggeria ferraria Mergl, 2002
Rosobolus magnus Mergl, 2002
Rosobolus robertinus Havlíček, 1982
Elkanisca obesa (Havlíček, 1980)
Ferrobolus catharinus Havlíček, 1982
Orbithele discontinua Mergl, 1981
Orbithele secedens (Barrande, 1879)
Acrotreta grandis Klouček, 1919
Dactylotreta sp.
Celdobolus aff. mirandus (Barrande, 1879)
Eosiphonotreta krafti (Růžička, 1927)
Siphonobolus simulans (Růžička, 1927)
Koligium kolihai (Růžička, 1927)
Lacunites walcotti (Růžička, 1927)
Petrocrania sp.
Protambonites kolihai (Havlíček, 1949)
Protambonites soror (Barrande, 1879)
Poramborthis grimmi (Barrande, 1879)
Poramborthis anomala Havlíček, 1949
Poramborthis cf. hispanica Havlíček, 1972
Eoorthis ruzickai (Havlíček, 1949)
Eoorthis? sp.
Jivinella praecedens (Prantl et Růžička, 1941)
Jivinella postcedens Havlíček, 1949
Jivinella? *ferrea* Havlíček, 1977
Robertorthis holoubkovensis Havlíček, 1977

- Robertorthis potens* (Barrande, 1879)
Kvania prima (Havlíček, 1977)
Apheoorthina ferrigena Havlíček, 1949
Apheoorthina bohemica Havlíček, 1949
Nanorthis rara Havlíček, 1949
- Gastropoda
Mimospira cf. *helmhackeri* (Perner, 1900)
- Trilobita
Ottenbyaspis broeggeri (Růžička, 1926)
Hemibarrandia holoubkvensis (Růžička, 1926)
Agerina ferrigena (Růžička, 1926)
Agerina clymene Mergl, 2006
Holoubkovia kloouceki (Růžička, 1926)
Anacheirurus bohemicus (Růžička, 1926)
Parapilekia ferrigena Mergl, 1994
Parabathycheilus krafti Mergl, 2006
Holoubkocheilus granulatus (Růžička, 1926)
Bavarilla cf. *hofensis* (Barrande, 1868)
dikelocephalinid
Holubaspis perneri (Růžička, 1926)
Apatokephalus aff. *dagmarae* Mergl, 1984
Platypeltoides sp.
Eulomina mitratum (Růžička, 1926)
Proteuloma sp.
- Echinodermata
Echinospaerites concomitans Barrande, 1887
Glyptospaerites ferrigena (Barrande, 1887)
Paleospaeronites crateriformis (Růžička, 1927)
Pyrocystites sp.
- Graptolithina
Dictyonema intermedium Prantl et Přibyl, 1949
Callograptus kodymi Prantl et Přibyl, 1949

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