explained by its greater distance from the source and the more limited input of bioclastic material, as is demonstrable in the Kosov quarry.

The sudden change in deposition at the Ludlow-Přídolí boundary is explained by CHLUPÁČ and KUKAL (1988) as representing a rapid transgressive event. Such an event is not evident in the Požáry quarry, where deposition was affected by unique and variable current conditions in the Upper Ludlow which could mask the effect of such transgressive event.

5. The Silurian-Devonian boundary interval in the Barrandian area

According to the resolution submitted to the International Union of Geological Sciences by the International Committee on the Silurian-Devonian boundary, this boundary should be set at the base of the Monograptus uniformis Zone (MCLAREN 1969). This recommendation was ratified at the 24th International Geological Congress in Montreal in 1972. The international standard (stratotype) for this boundary was established as Klonk near Suchomasty, with an auxiliary type section at Budňanská skála near Karlštejn (MCLAREN 1977). This resolution was motivated by the investigations of Ivo Chlupáč (CHLUPÁČ et al. 1972). All the biostratigraphic data that contribute to establishing and correlating the level at which *M. uniformis* first appears may be used toward the delineation of this boundary.

The main biostratigraphic criteria for the determination of the Silurian-Devonian boundary according to the current state of research (CHLUPÁČ et al. 1972, CHLUPÁČ – KUKAL 1977, PARIS et al. 1981, JEPPSON 1988, CHLUPÁČ et al. 1992, 1998, CHLUPÁČ – HLADIL 2000, CHLUPÁČ – VACEK 2003) may be summarized as follows:

1) the first occurrence of Lochkovian index graptolite *Monograptus uniformis* PŘIBYL;
2) the appearance of a trilobite assemblage including *Warburgella rugulosa* (ALTH);
3) the base of chitinozoan Angochitina chlupaci Zone;
4) the level within the conodont Icriodus woschmidti Zone, above the Ligonodina elegans detorta Subzone;
5) the upper boundary of the youngest Silurian trilobite biozone with *Tetinia minuta* (PŘIBYL and VANĚK) in pure carbonate facies.

The shallow-water development of boundary beds in which bioclastic limestones predominate is concentrated in the NW flank of the Barrandian area (area between Praha-Nová Ves and Tetín). In the area of transitional development the thick accumulation of bioclastic crinoidal or cephalopod limestones (the *Scyphocrinites* horizon) has developed into a wider boundary interval (Radotín Valley, Karlštejn, Vonoklasy). The deeper-water deposition in the SE flank of the Barrandian is characterized by platy micritic to biomicritic limestones and shale facies (Klonk, Čertovy schody).

5.1. The Praha-Radotín section

This section is situated within the Praha-Radotín settlement (see fig. 1), in a road cut about 50 m NE from the intersection of the streets "K cementárně" and "V sudech", and about 100 m SW from the paleontological locality called Antipleura Gorge (well-known since Barrande's). The sequence of the uppermost part of the Přídolí Forma-

Figure 10. The section of the Silurian-Devonian boundary beds in Praha-Radotín. The Silurian-Devonian boundary is marked by white line.

tion (Upper Silurian, Přídolí) and the main part of the Lochkov Formation (Lower Devonian, Lochkovian) are exposed there. This boundary interval is 7.5 m thick. The dip of beds is about 30° towards the NNW.

The uppermost part of the Přídolí Formation consists of platy, dark grey micritic bituminous limestones alternating with black calcareous shale (beds 1–8, see fig. 11). The thicknesses of the limestone beds range from 15 to 25 cm, while the thicknesses of the interbedded shales range from 25 to 50 cm. The limestones are homogeneous and without marked lamination. The interbedded shales are so weathered that it is very difficult to identify their composition and paleontological content. The fauna of the limestone beds is very poor, and the typical benthic forms are rare. Only shells of orthocone nautiloids, ostracods, and epiplanctonic bivalves were found, together with rare occurrences of phyllocarid crustaceans and eurypterids. In the uppermost levels of the Přídolí Formation (beds 7 and 8) the remains of *Scyphocrinites* sp. are comparatively abundant. The last determinable *Monograptus transgrediens* PERNER was found about 4 m below the Silurian-Devonian boundary (personal communication by I. Chlupáč).

The first occurrence of the graptolite *Monograptus uniformis uniformis* PŘIB. in bed 9 determines the Silurian-Devonian boundary. Other fauna consist of the gastropod *Platyceras* sp. and a very rich bivalve *Antipleura* community. The overlying bed 10 (1.2 m thick) is composed of coarse-grained bioclastic (crinoidal) limestone with abundant lobolites of *Scyphocrinites elegans* ZENKER, bivalves, and by current-oriented shells of orthocone nautiloids. The lower part of bed 11 consists of bioclastic limestone with abundant shells of nautilods and bivalves. The section continues upwards with thin-bedded, fine-grained bioclastic Kosoř Limestone (with chert in beds 13 and 14). This section is deliminated by a fault and continues as the Lochkov Formation sequence of the Radotín Limestone facies.

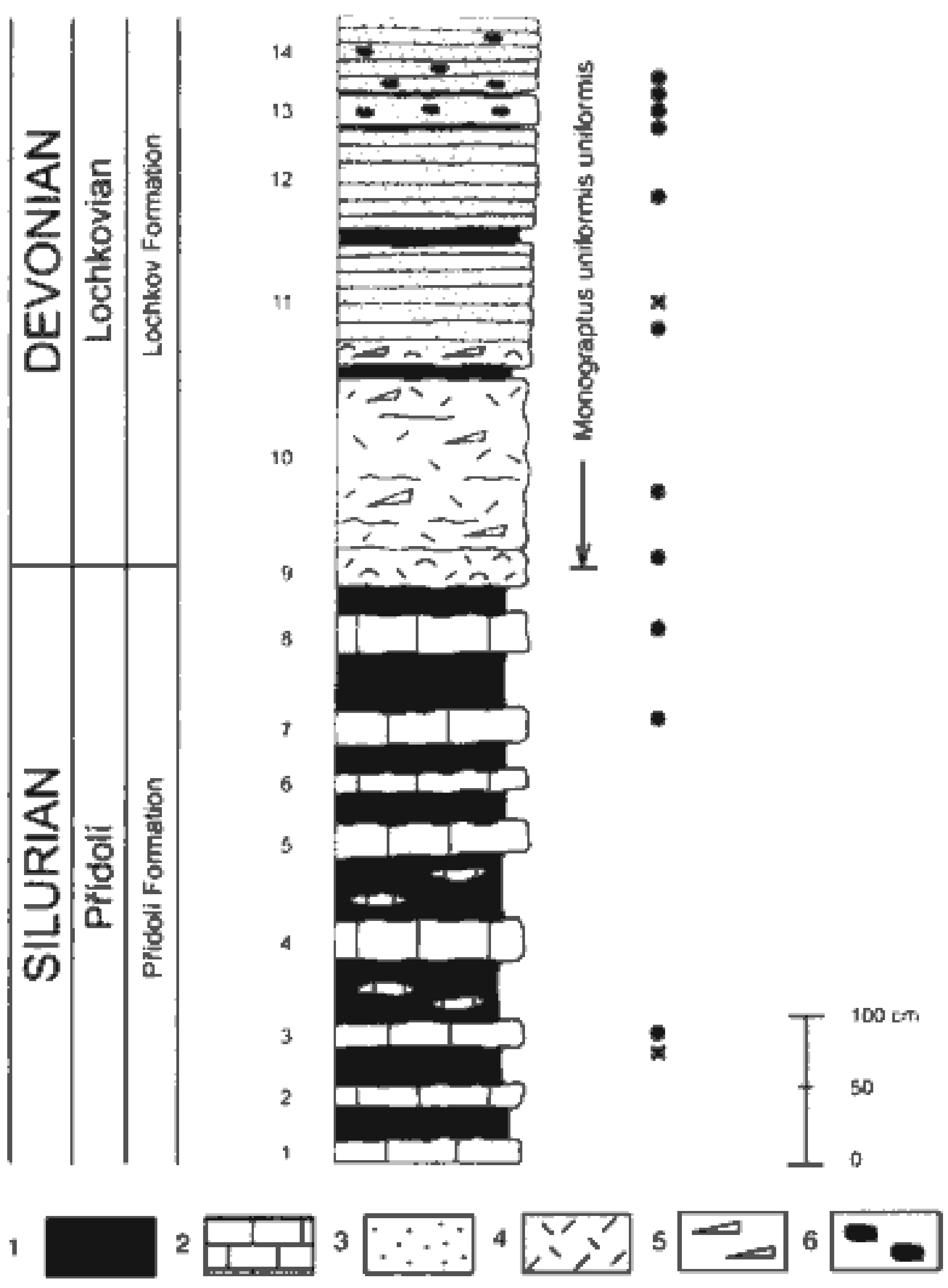

Fig. 11. Lithological scheme of the Silurian-Devonian boundary interval in the Radotín section. 1 – dark calcareous shales, 2 – dark micritic and biomicritic limestones, 3 – fine-grained bioclastic limestones, 4 – coarse-grained bioclastic (crinoidal) limestones, 5 – cephalopod limestones, 6 – cherts, ● – sample taken for thin-section, ✖ – sample taken for chemical analysis.

Bioclasts

The proportion of bioclasts is less than 10 % in the micritic and biomicritic limestones of the upper part of the Přídolí Formation. They consist mainly of whole or fragmented ostracod shells, with some fragments of nautiloids and bivalve shells, and microfossils (Mazueloidea, Acritarcha). The mean size of bioclasts is 0.5–1 mm (see tab. 7).

Sharp-edged fragments of crinoid stems a few centimetres in diameter are abundant in the coarse-grained bioclastic limestones at the base of the Lochkov Formation. Nautiloid shells are also common. Fragments of bivalve and ostracod shells and microfossils are less abundant. The bioclasts are often micritized.

Crinoid stems and ostracod shells 0.5 mm in diameter, and calcified sponge spicules, are abundant in the fine-grained bioclastic limestones of the upper part of the section.

Microfacies analysis

The uppermost part of the Přídolí Formation consists of platy, dark grey, micritic, bituminous, dolomitic limestones alternating with black calcareous shales (in beds 1 to 8). This limestone contains 50–60 % micrite, and 5–10 % bioclasts (fragments of ostracod and bivalve shells filled with sparite). The amount of early diagenetic dolomite fixed in the micritic matrix is about 30 % (see tab. 3). The amount of insoluble residue represented by clay and organic matter is rather large (13.30 %). Quartz grains are rare. Limestones of this type can be classified as SMF 3

Table 3. Composition of main lithological types in Radotín section (data in %)

lithological type	micrite	sparite	bioclasts	dolomite
micritic to biomicritic lst.	50–60	< 5	5–10	30
coarse-grained bioclastic lst.	10–20	< 5	> 50	10–15
fine-grained bioclastic lst.	10–15	30–40	25–40	5

(pl. 3 – fig. 1), which corresponds to WILSON's (1975) Facies Belt 3 (a basin margin or deep shelf margin, below the wave base, and at a depth of tens to hundreds of metres). According to KUKAL (1964) the micritic limestones of the Přídolí and Lochkov formations originated from the mechanical deposition of organic detritus and lime mud in the deeper part of a sedimentary basin. The lack of benthic fauna probably reflects anoxic conditions near the sea floor. No turbidite structures or textures (such as sharp erosional surfaces, positive gradation) were found there, despite the opinion of SUCHÝ et al. (1996). The idea of a cyclic, climate-induced sedimentation process, as presumed by CHLUPÁČ (2000b), seems to be a more probable interpretation than deposition from turbidites.

There is a thick accumulation of coarse-grained bioclastic (crinoidal and cephalopod) limestones at the base of the Lochkov Formation. Boundary bed 9 consists of an unsorted bioclastic limestone (wackestone-packstone) that can be classified as SMF 9. Bed 10 consists of biomicritic (Folk's type D) to coarse-grained, unsorted, bioclastic, dolomitic limestone (type E, packstone to grainstone). Its micrite content is 10–20 %, while its bioclastic content is greater than 50 % (consisting of fragments of crinoids, and cephalopod, bivalve, and ostracod shells). The dolomite content is 10–15 %. Abundant early diagenetic dolomite in a micritic matrix is accompanied by late diagenetic dolomite in bioclast fillings and along microstylolites (see tab. 3). This type of limestone can be classified as SMF 5 (pl. 3 – fig. 2), or as SMF 12 which corresponds to Facies Belt 4 (the foreslope of a carbonate platform, where organic debris accumulates). The depth is estimated at several tens of metres below the wave-base. These limestones may be classified as debris flows based on their sedimentary structures (coarsening upward).

This section continues upward with the thin-bedded, fine-grained, unsorted, bioclastic Kosoř Limestone (type E, packstone), with cherts (in beds 13 to 14) in which sponge spicules are frequently preserved. The presence of idiomorphic dolomite crystals in the siliceous material confirms that silicification preceded dolomitization.

The micrite content of this limestone is 10–15 %, and its sparite content is 30–40 %. The bioclastic fraction is 25 to 40 %, and is comprised of crinoid and ostracod shell fragments. The dolomite content is about 5 %; it is late diagentic and fixed in sparite (see tab. 3). This type of limestone can also be classified as SMF 5 (pl. 3 – fig. 3). This microfacies corresponds to the deeper part of Facies Belt 4 (foreslope of a carbonate platform). A depth of several tens of metres is infererred from its mixture of fine-grained bioclasts, and by the fact that it contains no coarser components characteristic of deposition closer to a carbonate platform. The transport process was the same as in the previous case (debris flows).

This section represents an area of deeper-water development of the Přídolí and Lochkov formations (Radotín Limestone facies).

5.2. The Praha-Podolí section

This section is situated on the northern wall of the former Podolí cement plant quarry, which currently serves as a swimming pool (see fig. 1). It is the easternmost locality in the Barrandian area in which the Silurian-Devonian boundary beds are exposed. This important site has been studied by many geologists, begining in the mid-nineteenth century, including BARRANDE (1881), NOVÁK (1886), KREJČÍ – FEISTMANTEL (1890), KATZER (1892), JAHN (1903), PŘIBYL (1943), CHLUPÁČ (1953), and CHLUPÁČ et al. (1972).

The entire sequence of the Přídolí (Upper Silurian, Přídolí) and Lochkov (Lower Devonian, Lochkovian) formations, and the lowermost part of Praha Formation (Lower Devonian, Pragian), is exposed in this quarry. Early Paleozoic rocks form a syncline structure disrupted by many NE-SW and N-S faults. This locality is protected as a natural monument (KŘÍŽ 1999b).

Although this section has been subjected to detailed paleontological and biostratigraphical studies, sedimentological research has only now been carried out.

The thickness of the interval is 4.5 m (see fig. 13). The dip of beds is 20° southwards.

The uppermost part of the Přídolí Formation (Přídolí and the lowermost levels of the Lochkovian) consists of

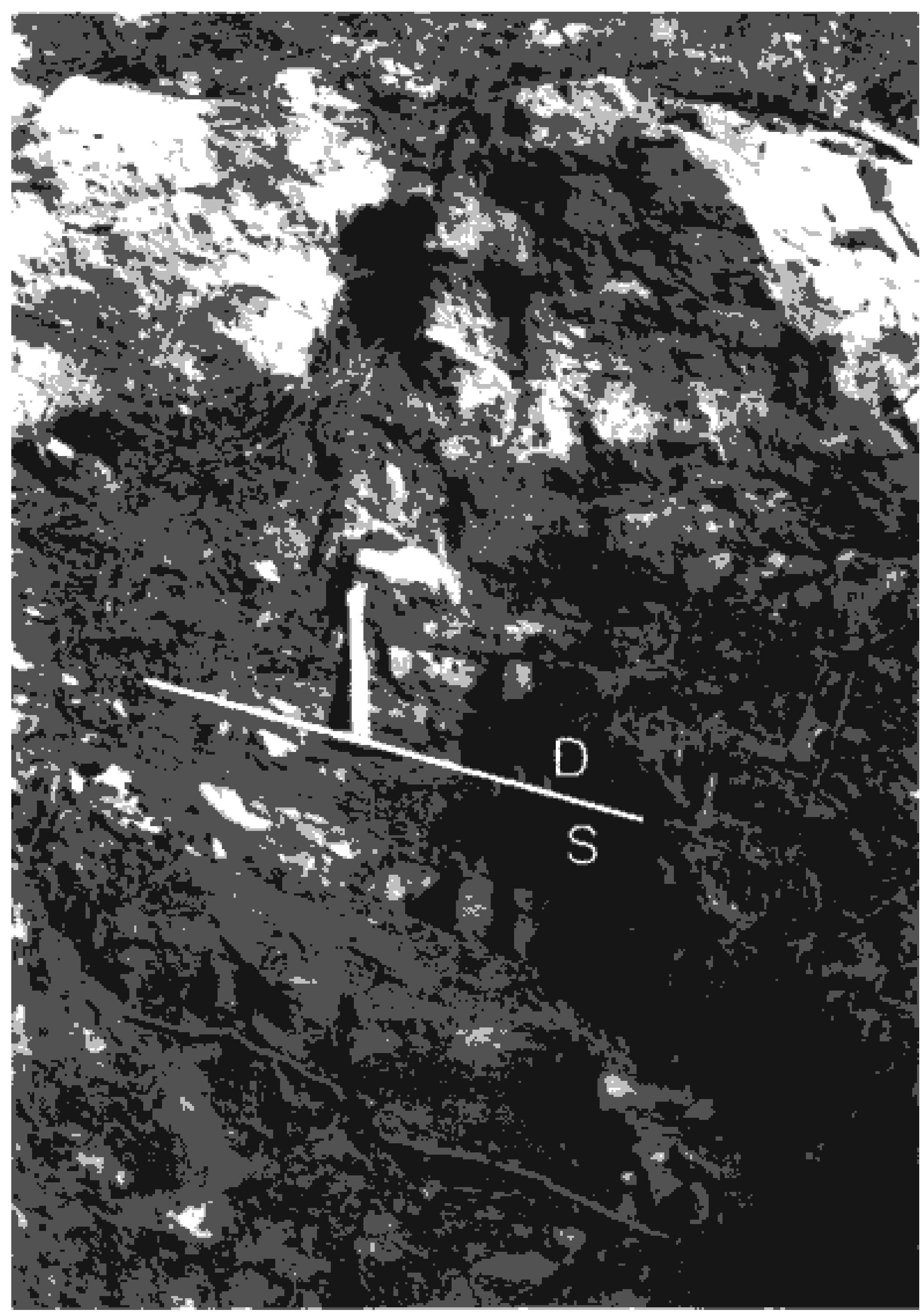

Figure 12. The section of the Silurian-Devonian boundary beds in Praha-Podolí. The Silurian-Devonian boundary is marked by white line.

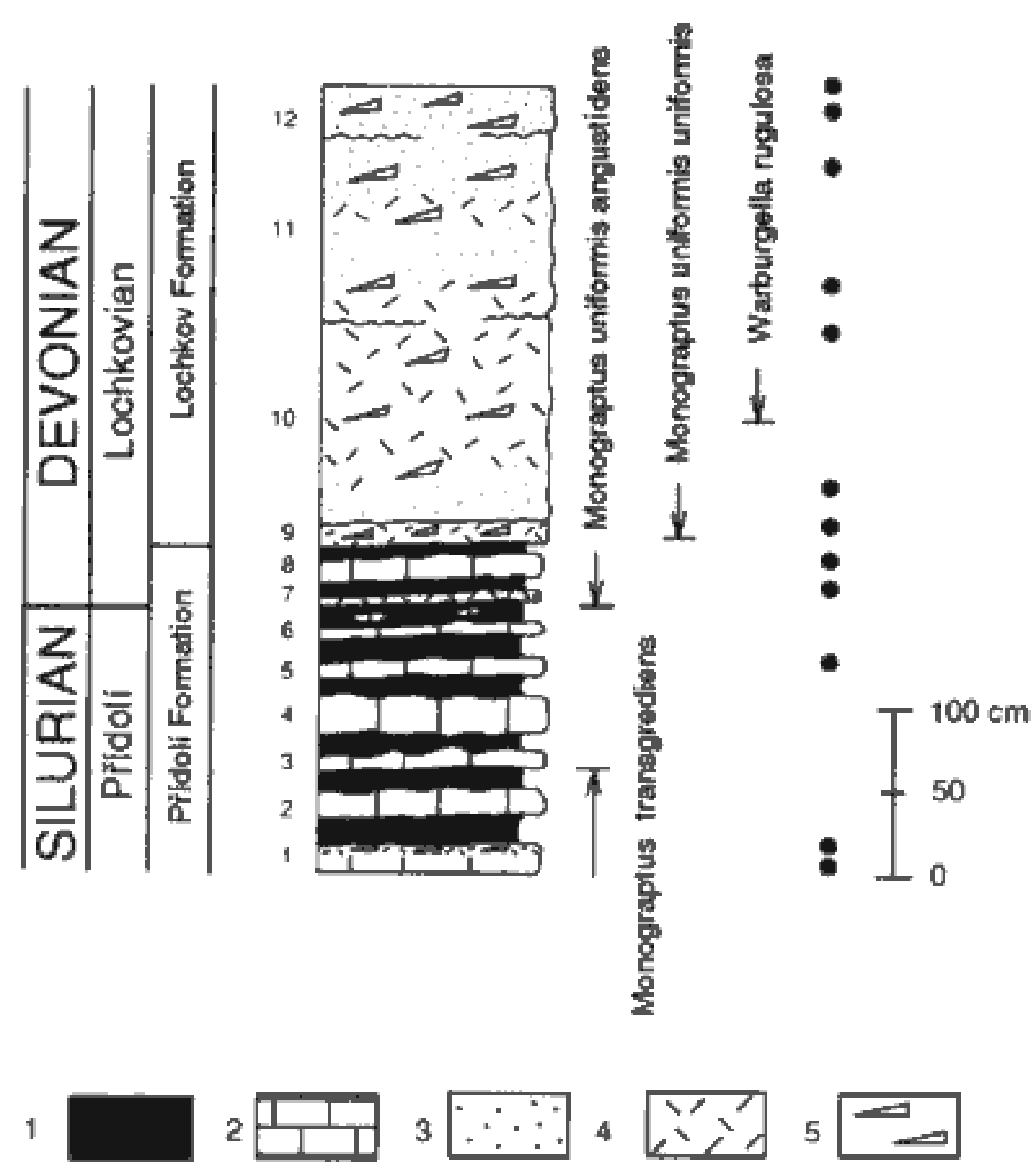

Figure 13. Lithological scheme of the Silurian-Devonian boundary interval in the Podolí section. 1 – dark calcareous shales, 2 – dark micritic and biomicritic limestones, 3 – fine-grained bioclastic limestones, 4 – coarse-grained bioclastic (crinoidal) limestones, 5 – cephalopod limestones, ● – sample taken for thin-section.

platy, dark grey, micritic, bituminous limestones (type C, mudstones to wackestones) alternating with black calcareous shale (beds 1–8). There is a 3 cm thick layer of coarse-grained bioclastic limestone in the upper part of bed 1. The thicknesses of the limestone beds range from 10 to 25 cm, while the thicknesses of the interbedded shales are between 10 and 15 cm. The fauna of these beds consists of graptolites, bivalves, brachiopods, nautiloids, ostracods, eurypterids, phyllocarid crustaceans, and crinoids *Scyphocrinites* sp. The youngest Přídolí index graptolite, *Monograptus transgrediens* PERNER, was found in bed 3.

The lower part of Lochkov Formation sequence consists of massive beds of light-coloured coarse-grained bioclastic limestones. The thickness of individual beds ranges from 30 to 130 cm.

The Přídolí-Lochkovian boundary is defined by the first occurrence of the graptolite *Monograptus uniformis angustidens* PŘIB. in shale interbed 6/7, where it appears together with *Linograptus* sp. The first *Monograptus uniformis uniformis* PŘIB. was found 20 cm higher in bed 9. The first *Warburgella rugulosa* (ALTH) was found 50 cm above the base of bed 10, which is one metre lower than previous authors have indicated (e. g. CHLUPÁČ et al. 1972).The fauna of the Lower Lochkovian is otherwise represented by trilobites, nautiloids, and bivalves.

The Upper Lochkovian conodont *Pedavis pesavis* BISCHHOFF et SANNEMANN has been reported in bed 11 (CHLUPÁČ et al. 1972). This section is an extremely condensed sequence of the Lower Lochkovian.

The overlying sequence is characterized by the alternation of beds of the Radotín and Kosoř Limestone facies. The entire thickness of the Lochkov Formation in Podolí quarry is 30 m. A 6 m thick relic of the Slivenec and Dvorce-Prokop Limestones of the Praha Formation is preserved in the core of syncline (CHLUPÁČ 1953).

Bioclasts

The proportion of bioclasts in the micritic and biomicritic limestones of the upper part of the Přídolí Formation is usually less than 10 %. They are mainly comprised of whole or fragmented ostracod shells up to 1 mm in diameter. Crinoid stems and nautiloid shells are most abundant in the coarse-grained bioclastic limestone intercalations (see table 7).

The medium- and coarse-grained bioclastic limestones of the lower part of the Lochkov Formation are composed mainly of sharp-edged fragments of crinoids, nautiloids, and less abundant bivalve shells a few mm in size. The carapaces of trilobites and brachiopod shells are comparatively rare.

Microfacies analysis

The uppermost part of the Přídolí Formation consists of platy, dark grey, micritic to biomicritic limestones (types B to C, mudstone to wackestone) interbedded with black calcareous shale (beds 1–8). Intercalations of fine or coarse-grained bioclastic limestones (types D to E, packstone) are observed within some beds. Parallel and inclined lamination is also observable within some limestone beds (pl. 3 – fig. 4). Micritic limestones contain 40–50 % micrite, while their bioclastic content is only about 10 % (consisting of fragments of bivalve and ostracod shells, see tab. 4). Quartz grains occur rarely. This type of limestone can be classified as SMF 3. Umbrella effects are common in unsorted, coarse-grained, bioclastic limestones that correspond to SMF 5. The sedimentary environment corresponds to Facies Belt 3 (basin margin or deep shelf margin, at a depth of several tens to a few hundreds of metres below the wave base). The origin of these limestones is analogous to those of the Radotín section, but differ in their greater input of bioclastic material.

Table 4. Composition of main lithological types in Podolí section (data in %)

lithological type	micrite	sparite	bioclasts	dolomite
micritic to biomicritic lst.	40–50	< 5	10	5
medium to coarse-grained bioclastic lst.	15–30	30	30–50	5

The overlying accumulation of medium- to coarse-grained bioclastic limestones (types E to F, packstone to grainstone) belongs the lower part of the Lochkov Formation (beds 9–12). Their bioclastic content is 30–50 % (containing fragments of crinoids, cephalopod, bivalve and gastropod shells), with 15–30 % micrite, and about 30 % sparite. The proportion of dolomite is only about 5 %. This dolomite is early diagenetic in origin, and is enclosed in micritic matrix. By contrast, the late diagenetic dolomite is present in the sparite fillings of bioclasts (see tab. 4). This type of limestone can be classified as SMF 5 (or as SMF 9 in the upper part of bed 12, see pl. 4–fig. 1). It consists of a mixture of bioclasts of different types and sizes that accumulated on the foreslope of a carbonate platform, producing bioclastic material (the Facies Belt 4). The depositional structures favour limestone deposition by debris flows. The depth of the sedimentary environment was several tens of metres, near or below the wave base. This section corresponds to the transitional development of the Silurian-Devonian boundary beds, as compared to the interval between the Radotín and Řeporyje sections.

5.3. The Požáry quarry section in Praha-Řeporyje

An outcrop of the Silurian-Devonian boundary beds is exposed in the eastern face of the quarry close to the southern end of the tunnel. This section of light-coloured, coarse-grained, bioclastic limestones is 7 m thick (see fig. 15). The beds dip 45° towards the SE. The thickness of individual beds is rather variable and ranges from 0.4 to 2.5 m. Some limestone beds are separated by a thin layer of clayey limestone (between beds 158 and 159, 160 and 161). Bed 159 is composed of massive dolomite. Intraformational breccia occurs in bed 160 (see figs. 15 and 16). This interval has been studied before, mainly by CHLUPÁČ (1953), BARNETT (1972), and KŘÍŽ (1992).

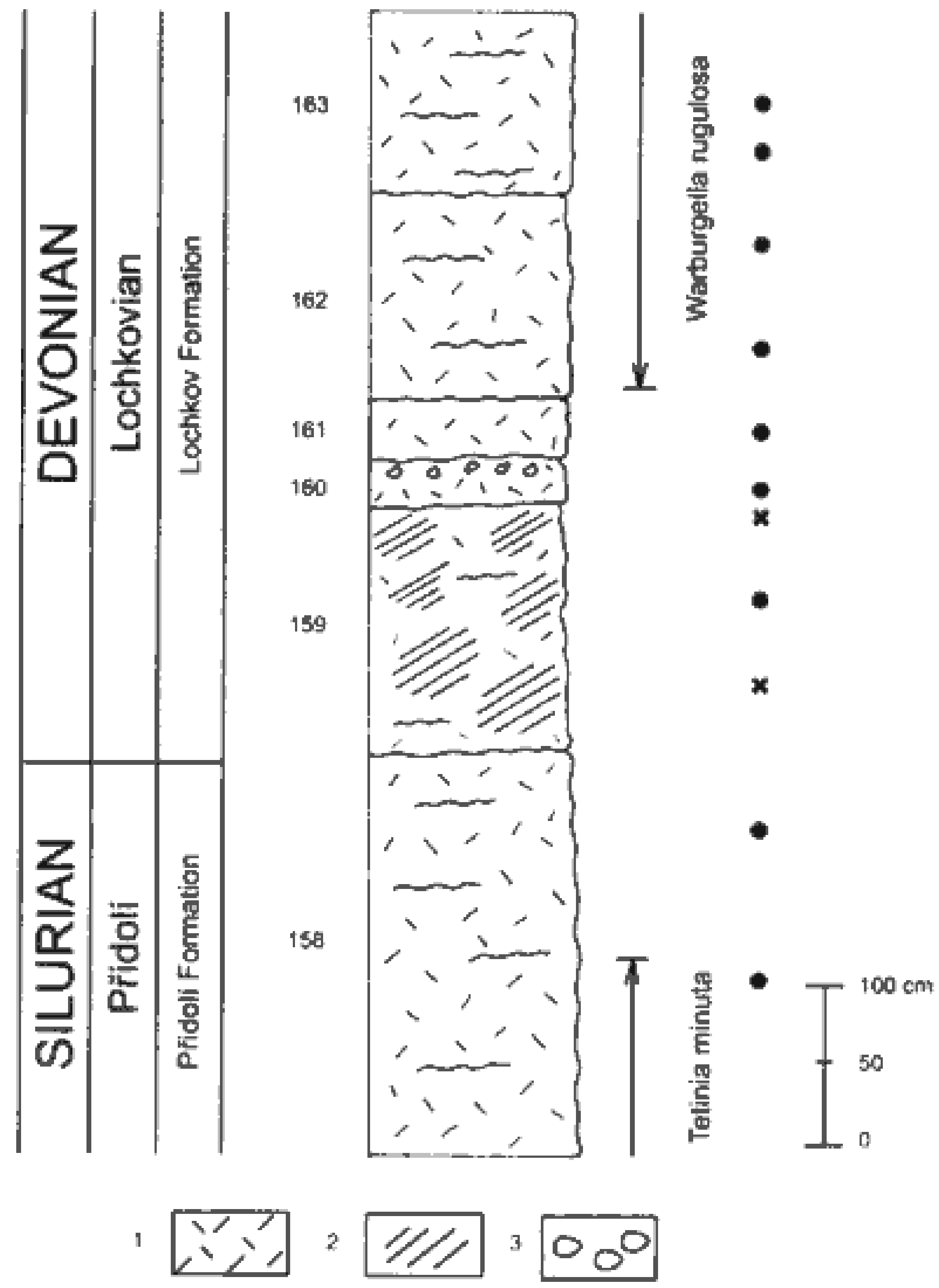

Figure 15. Lithological scheme of the Silurian-Devonian boundary interval in the Požáry quarry section. 1 – coarse-grained bioclastic (crinoidal) limestones, 2 – strong dolomitization, 3 – sedimentary breccia, ● – sample taken for thin-section, ✖ – sample taken for chemical analysis.

The fauna of the uppermost part of the Přídolí Formation consists of trilobites, brachiopods, conularids, and

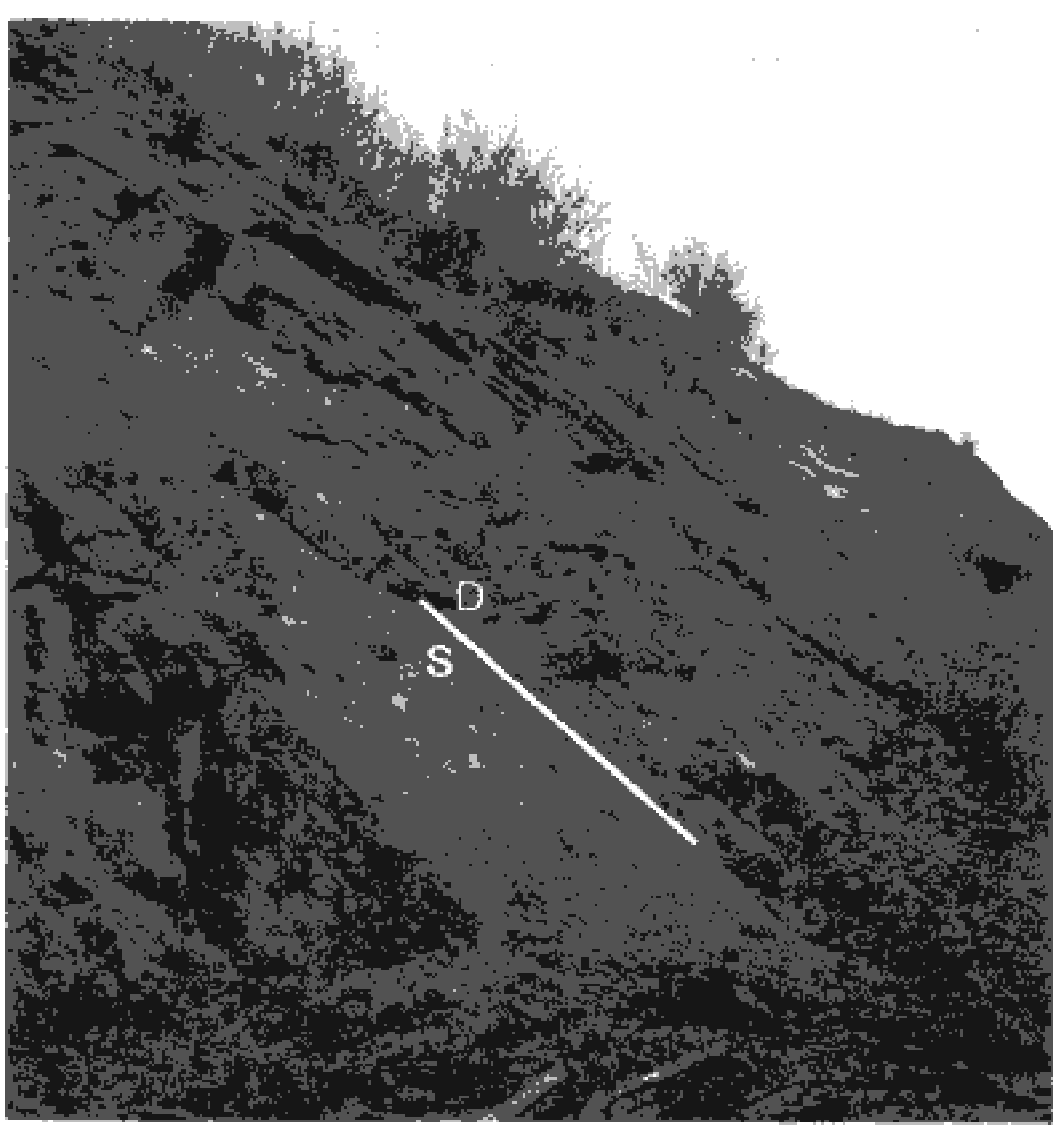

Figure 14. The section in Požáry quarry in Praha-Řeporyje. The Silurian-Devonian boundary is marked by white line.

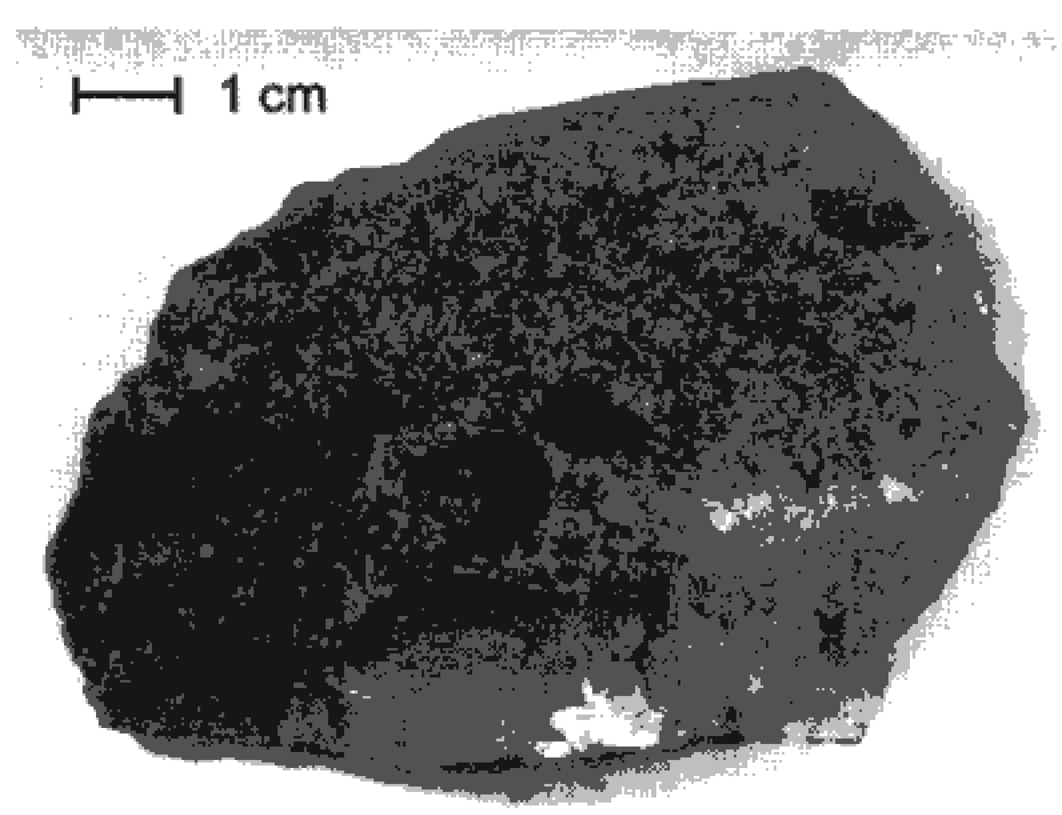

Figure 16. Intraformational breccia from the bed No. 160 (Požáry quarry in Praha-Řeporyje).

phyllocarid crustaceans. The last Přídolí index trilobite, *Tetinia minuta* PŘIBYL et VANĚK, was found 140 cm below the top of bed 158. The terrestrial flora is represented by the rare *Cooksonia* sp.

Altough the first Lower Lochkovian index trilobite, *Warburgella rugulosa* (ALTH), occurs in bed 162, the Silurian-Devonian boundary according to KŘÍŽ (1992) is at the base of bed 159, where the Lochkovian fauna (including brachiopods) already occurs. The fauna of the Lower Lochkovian consists of trilobites, brachiopods, and crinoids *Scyphocrinites* sp.

The Lochkovian sequence continues upwards with light-coloured bioclastic limestones of the Kotýs Limestone facies.

Bioclasts

The sharp-edged or slightly rounded fragments of crinoid stems and brachiopod shells abound in the coarse-grained bioclastic limestones of the boundary interval (about 1 mm across). Fragments of trilobite carapaces are present, but rare.

Microfacies analysis

The boundary interval consists of beds of unsorted or slightly sorted, medium- to coarse-grained bioclastic, dolomitic limestones (type F, packstones to grainstones). These limestones contain more than 50 % bioclasts (fragments of crinoids, carapaces of trilobites, shells of brachiopods). Sparite contents range between 20 and 30 %, syntaxial sparite overgrowths on crinoid stems is common. The micrite content is about 5 %. The amount of insoluble residue is low because most of the clay was washed out by wave activity. The dolomite content is 5–20 %. Early diagentic dolomite is embedded in a micrite matrix, and the late diagenetic dolomite occurs in sparite-filled bioclasts and also along microstylolites (see pl. 8 – figs. 2 and 4). An increased amount of insoluble residue in the dolomite of bed 159 was observed. Such a positive correlation between dolomite and insoluble residue contents is typical of the Barrandian carbonate rocks (see charts 7 and 8).

This type of limestone can be classified as SMF 5 (or as SMF 12 in bed 162, and SMF 9 in bed 163). Such microfacies correspond to Facies Belt 4 (foreslope of a carbonate platform), where a talus of detrital material produced on the carbonate platform was deposited. The deposition took place above the wave base at depths of several metres to a few tens of metres, where most of micrite matrix was washed out.

Table 5. Composition of main lithological types in the Požáry section (data in %)

lithological type	micrite	sparite	bioclasts	dolomite
medium to coarse-grained bioclastic lst.	5	20–30	> 50	5–20

Strong wave activity and synsedimentary erosion are also well documented by an occurrence of the intraformational breccia in bed 160. This section corresponds to shallow-water development of the Kotýs Limestone facies.

5.4. Conclusions

The results of the microfacies analysis show a shallowing trend in the sedimentary basin, from the NE part of the Prague Basin towards the NW during the youngest Přídolí and the oldest Lochkovian interval. A short-lived regressive pulse in the Silurian-Devonian boundary interval has also been documented by other methods, such as magnetic susceptibility (CRICK et al. 2001). The drop in sea level resulted in the increased input of coarse, detrital, mostly crinoidal, material to the deeper part of the sedimentary basin, and the deposition of coarse-grained, bioclastic crinoidal limestones. This event is more apparent in the deeper parts of the sedimentary basin, where it is connected with a facies change.

Crinoid biostromes in the NW flank of the Barrandian area (between Praha-Nová Ves and Tetín) were the sources of the detrital material (CHLUPÁČ et al. 1992, 1998). The Požáry quarry section, which corresponds to a shallow-water environment of the Lochkov Formation (Kotýs Limestone), was close to this source area, which was covered by talus slopes of biogenic debris at the margins of the crinoid biostromes. This marine environment was extremely shallow: only a few metres deep and above the wave base. The Podolí section corresponds to the transitional development of the Silurian-Devonian boundary beds, where deposition in the uppermost Přídolí took place below the wave base. A drop in sea level extended the reach of the wave activity zone. The Radotín section belongs to a deeper-water sedimentary environment, generally below wave-base (the area of the Radotín to Kosoř Limestone facies). This section was situated further basinwards, where the input of detrital material was more limited.

Table 6. Number of detected SMF in studied sections

	Radotín	Podolí	Požáry
SMF 3	3	4	–
SMF 5	5	9	4
SMF 9	1	1	1
SMF 12	(1)	–	(1)

No sedimentary structures supporting the idea of turbidite deposition in the Silurian-Devonian boundary interval were found during the present study, although some previous authors have postulated a role for this depositional mechanism (DAVIES – MACQUEEN 1977, SUCHÝ et al. 1996). The idea of cyclic, climate-induced sedimentation in a hemipelagic environment, with the episodic influences of traction currents (as presumed by CHLUPÁČ 2000b) seems probable concerning the origin of the micritic limestones. Most of bioclastic limestones could have been de-

Table 7. Amount of bioclasts in the Přídolí-Lochkovian boundary interval

		SILURIAN	DEVONIAN			
		Upper Přídolí	Lower Lochkovian			
			Rad.	Kosoř	Kotýs	"scyph."
Crinoids	R	X		●	X	●
	Po	●	X	X	●	X
	Pd	·			X	●
Cephalopods	R	·		X	X	•
	Po	X	X	X	X	X
	Pd	·			X	•
Bivalves	R	·		·	X	·
	Po	X	X	X	X	X
	Pd	·			X	·
Ostracodes	R	•		·	X	X
	Po	X	X	X	X	X
	Pd	•			X	X
Trilobites	R	X		X	X	X
	Po	X	X	X	·	X
	Pd	X			X	·
Brachiopods	R	X		X	X	X
	Po	•	X	X	•	X
	Pd	X			X	·
Sponge spicules	R	X		•	X	X
	Po	X	X	X	X	X
	Pd	X			X	X
Mazueloidea	R	·		X	X	·
	Po	X	X	X	X	X
	Pd	·			X	·
Prasinophyta	R	·		X	X	X
	Po	X	X	X	X	X
	Pd	·			X	X
Acritarchs	R	·		X	X	X
	Po	X	X	X	X	X
	Pd	X			X	X

Localities: R – Radotín, Po – Požáry quarry, Pd – Podolí; Facies: Rad. – Radotín Limestone, Kosoř – Kosoř Limestone, Kotýs – Kotýs Limestone, "scyph." – coarse-grained crinoidal and cephalopod limestones of so-called "Scyphocrinites horizon"; relative content of bioclasts: ● – abundant, • – common, · – rare, × – bioclasts are not present, [×] – facies is not present at locality, [ ] – facies is present out of studied interval.

posited by debris flows. The deposition of coarse-grained bioclastic limestones in the lowermost part of the Lochkov Formation in the Radotín section was strongly influenced by the activity of these currents. The Podolí section is largely analogous to the former section. Shallow-water deposition in the Požáry quarry section was affected by wave-generated traction currents, and thus any micritic matrix was completely washed out.

6. The Lochkovian-Pragian boundary interval in the Barrandian area

The Lochkovian-Pragian boundary beds are exposed in many natural and artificially-exposed outcrops in the Barrandian area, even within the city of Prague. Three sections with different facies developments were chosen for this study (see fig. 1).

Černá rokle near Kosoř represents the relatively deepest-water development. On the other hand, shallower facies are encountered in old quarries near Cikánka. These two sections serve as auxiliary reference sections of the Lochkovian-Pragian boundary. The stratotype section at Homolka near Velká Chuchle represents transitional development (Chlupáč – Oliver 1989).

All these sections have been visited by many geoscience field trips and individuals during the past fifty years, and are described in excursion guides and some special papers (especially Chlupáč 1999, 2000a, Chlupáč et al. 1985, 2002, Kříž 1999b). The original numbering of beds is used in this paper. The studied material includes 41 thin-sections.

6.1. Černá rokle near Kosoř

The outcrops of the Lower Devonian rocks are situated SE of Kosoř village on the SW margin of the city of Prague. The sequence of the Lochkovian-Pragian boundary beds is exposed in old quarries where paving material was extracted (see fig. 17).

This typical locality of the Radotín Limestone facies has been well-known since Barrande's times. Although a holostratotype of the Lochkovian-Pragian boundary was established here, the current stratotype at Homolka near Praha-Velká Chuchle was ratified in 1989 in accordance with the resolution of the Subcommission on Devonian Stratigraphy (Chlupáč – Oliver 1989). The reason for this decision was the increased abundance of index conodonts in the Homolka section.

This section includes the uppermost part of the Lochkov Formation (Radotín Limestone facies, beds 53–80) and the lower part of the Praha Formation (Dvorce-Prokop Limestone facies, beds 81–87; fig. 18). The Lochkovian-Pragian boundary is located in shale interbed 80/81. The topmost bed of this section (87) is composed of massive nodular limestone. The overlying sequence, in which the beds are not numbered, continues up to the lower parts of the Zlíchov Formation.

The samples for thin-sections from the Lochkov Formation were taken from beds 56, 61, 62, 63, 64, 65, 66, 70, 75, 79, and 80 (fig. 18), especially in places where lithological changes mark the input of coarser detritus or another changes in depositional mechanics.

The samples from the Praha Formation were taken from beds 81, 82, 84 and 87 in order to document the boundary interval and to sample a bed of nodular limestone. The interbedded shales are intensely weathered, and thus were not amenable to sampling for thin-sections.

Bioclasts

The Lochkov Formation is composed mainly of fine-grained microsparitic Radotín Limestone. Complete and fragmented shells of tentaculites, ostracods, and sponge spicules comprise most of the bioclasts (see table 8). In