

Llandovery–Wenlock boundary beds in the graptolite-rich sequence of the Barrandian area (Bohemia)

Hraniční polohy llandovery a wenlocku ve facii graptolitových břidlic v Barrandienu (Czech summary)

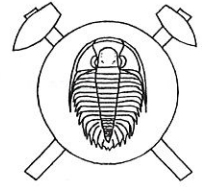
(4 plates, 5 text-figs.)

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Temporary excavations at Velká Ohrada and two other sections through the graptolite-rich Llandovery–Wenlock boundary strata have been examined bed by bed. In the *St. grandis*, *Cyrt. insectus*, *Cyrt. centrifugus*, and *Cyrt. purchisoni* Zones 43 graptolite taxa have been found. The diverse graptolite assemblages are listed, seven poorly known Bouček's and Přibyl's species redescribed and *Monograptus vittatus* sp.n. described. The Barrandian sections account for a distinct change in graptolite fauna at about the base of the *insectus* Zone as opposed to a very minor change at the base of the *centrifugus* Zone. The base of the *insectus* Zone and of the Wenlock Series respectively are correlated with the base of the *centrifugus* Zone in those regions abroad (including the type Wenlock area), where the *insectus* Zone is not recognized.



Introduction

Some doubts about absolute correlative potential of global boundary stratotypes of the Silurian series and stages have been confirmed in course of present discussion on an internationally acceptable Silurian standard graptolite zonal scheme. The Llandovery–Wenlock boundary sections in the type Wenlock area, for instance, little contributed to precise international correlation based on graptolites. In Bohemia and elsewhere in the world, however, the corresponding, but graptolite rich Llandovery–Wenlock boundary strata yield good basis for detailed graptolite biostratigraphy and correlation.

In Bohemia many sections through the graptolitic shales of Barrandian area have been studied by Bouček (1930, 1931a, 1937, 1942, 1946), Přibyl (1937, 1938a, 1938b, 1940a), Bouček and Přibyl (1952), Štorch (1980, 1986, 1991 MS) and Turek (1990). Comprehensive papers on the lower Silurian graptolite biostratigraphy of the Barrandian area were published by Bouček (1953) and Štorch (1994). The range-zones, partial-range zones, couple-range zones, partial couple-range zones, interval zones, and abundance zones have been recognized by Štorch (1994) and utilized in his zonal chart. The same zones are used in present paper.

The uppermost Telychian and lower Sheinwoodian, i.e. the Llandovery–Wenlock boundary interval, is developed in form of dark grey to black, graptolitic shales of Motol Formation. In course of *Cyrt. centrifugus* and *Cyrt. purchisoni* Zones the black calcareous shales alternated

with dark muddy limestones with occasional laminae of fine biotrital limestones. The calcareous graptolitic shales persisted into the succeeding *M. riccartonensis* and *Pr. dubius* Zones. The shales are bleached by fossil humid weathering where an old pre-Quaternary peneplain is preserved near the outcrops.

Recently the Llandovery–Wenlock boundary interval has been accessible to stratigraphical studies at several places in the SW part of Prague territory. Sedimentary sequence cropping out at rocky slope above the Vltava River [locality “Na Vyskočilce” near Malá Chuchle, grid references X5544371, Y3456698 (Gauss – Krueger), text-fig. 1, no. 2] has already been described by Bouček (1953). It is slightly tectonized and disrupted by basalt sill between the *grandis* and *insectus* Zones. The steep slope is not suitable for extensive collecting and much old data came from isolated blocks fallen below the rock. Another locality has been studied at the opposite bank of Vltava River, in railway cutting, besides the railway bridge in Braník (X5544072, Y3457544, text-fig. 1, no. 3, locality “Hodkovičky” described by Přibyl 1938b and Štorch 1991). There the basalt sill penetrated the black shales below the base of the *purchisoni* Zone.

The best of Llandovery–Wenlock boundary sections, bearing common and moderately well preserved graptolites in the continuous sedimentary sequence, has been temporarily exposed by building excavations along Červeňan-