

**Stop 15 –
Baška village – part of
the Hradiště Formation
with so-called teschenite volcanics
(including pillow lavas) (Fig. 48)**

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Late Jurassic subsidence enhanced deposition in several troughs (from south to north the Magura-, the Silesian- and the Subsilesian basins) separated by ridges. During Early Cretaceous, black shale dysoxic sedimentation with local submarine clastic fans embraced almost all Outer Carpathian basins. Slow and uniform sedimentation of green and black shale took place during the Albian–Cenomanian, followed by sedimentation of red and variegated shale under well-oxygenated conditions in the Upper Cretaceous. Locally more than 6 km thick flysch deposits are typical of the Outer Carpathian sedimentary sequences.

The Silesian unit is a part of the flysch zone of the Outer Western Carpathians representing the complex of allochthonous nappes. Three subunits (facies) are preserved in the present-day structure of the Silesian Unit (Picha *et al.*, 2006), i.e. the Godula subunit (basinal setting), the Baška subunit (frontal slope setting) and the Kelč subunit (continental slope setting).

Rocky bottom of the Ostravice River near Baška village exposes higher (Upper Barremian) part of the Hradiště Formation. Dark-grey marlstones and siltstones are penetrated

and metamorphosed by intruding rocks of so-called teschenite association. A teschenite pyroxenite exposure more than 100 m long occurs in the river bed and both the banks of the Ostravice River. The exposure contains almost 2 m thick layers of dark grey calcareous claystones of the Těšín-Hradiště Formation, locally metamorphosed along the contact with teschenite. Fragments of ammonites and small gastropods occur in one of the claystone layers. *Partschiceras infundibulum* (d'Orb.) and *Costidiscus rakusi* Uhlig are the best-preserved ammonites. The latter species indicates deposits at the Early/Late Barremian boundary (Vašíček *et al.*, 2004). In the beds immediately underlying the igneous rocks, there is exposed a thrust plane separating the Silesian Nappe from structurally lower Subsilesian Nappe. Mandelstones with cavity diameters to 15 cm as maximum, filled by calcite, analcime and harmotome, occur locally near the contacts with the sediments.

Formation is teschenite association represents dikes, veins, lavas, pillow lavas, and pyroclastic rocks of the teschenite rift-related submarine alkalic, calc-alkalic, and basic volcanism. Šmíd & Menčík (in Menčík *et al.*, 1983) distinguished three groups of volcanic rocks: picrites, teschenites, and monchiquites. Hovorka & Spišiak (1988) associated the teschenite volcanism with a short-term rifting of the continental crust. Dostal & Owen (1998) pointed to similarities of these rocks with basalts, basanites, and nephelinites derived from the upper mantle. The volcanic activity peaked during the deposition of the lower part of the Hradiště Formation in the Early Berriasian to Early Barremian time, although teschenite volcanic rocks are sporadically found also in the underlying Těšín Limestone and the Vendryně Formation.



Fig. 48. Teschenitic pillow lavas of on the left bank of the Ostravice River near Baška village (after Skupien & Vašíček, 2008)