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## Silurian-Devonian interval in the Caballé-1 section

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**Locality** - In the small hill “El Tosquero” a few ms to the NE of “Borda Caballé” (also known as Borda de Marsal Lloret).

**Lithostratigraphic unit** - Orthoceras Limestone.

**Age** - Pridoli? (Silurian)-Lochkovian (Lower Devonian).

**What to see** - The characteristic orthoceras limestone close to the Silurian/Devonian boundary in the Sierra Negra area.

### How to get there

The locality is accessible from the regional road A-139 Benasque-Francia. On the right side of the San Chaime Bridge take the forest track coinciding with GR-11. About 400 m north of the bridge, a field opens to the east with the Borda Caballé in the north side. Then, an easy cross-country uphill hike leads to the base of the section.

### Historical outline

Degardin & Waterlot (1974) and Degardin (1977, 1978, 1988) studied the section Cavaler, which crops out in the eastern side of the GR-11 forest track. This section is comparable to ours and additionally exposed the black shales, which underlain the orthoceratids black limestone, in the core of an anticline with the southern flank inverted. Valenzuela-Ríos (1994) measured and sampled the section Caballé-1 for conodonts.



Figure 1. General view of the Caballé-1 section.

### Lithology and fossil content

The section has a thickness of about 15 m and consists of black limestone with abundant orthoceratids and crinoids (Figs. 1, 2).

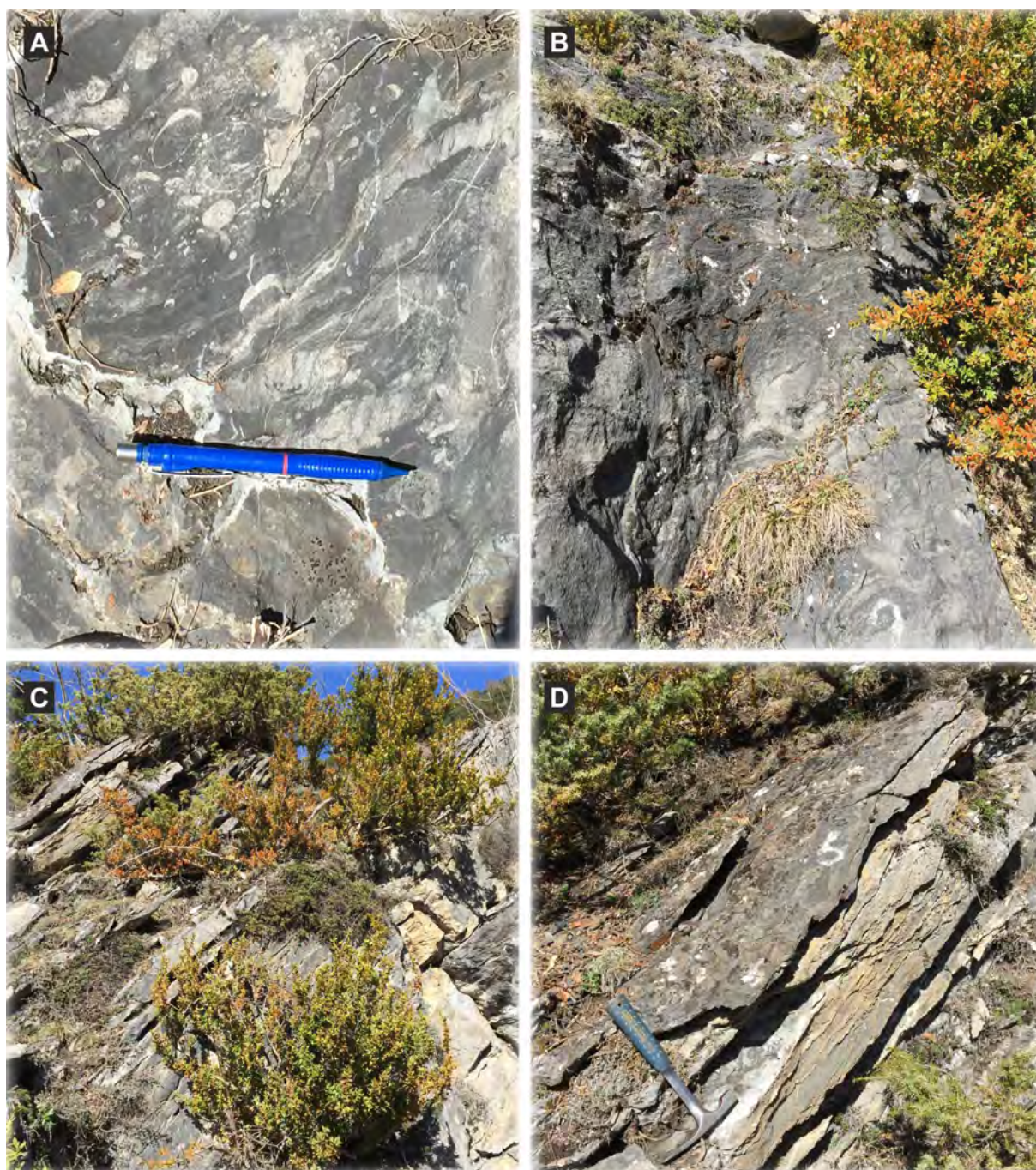
### Palaeoenvironment

García-López et al. (1996) interpreted this upper Silurian carbonate sequences in the Pyrenees as deposited in a deep carbonate ramp with low sedimentation rate.

### Fossil content

Ten conodont samples have been collected from the Caballé-1 section (Fig. 3) from different limestone beds. Abundance is low, except for sample Caballé 1/6 and seven samples were barren, didn't yield diagnostic conodonts or only indeterminable fragments were obtained. The preservation is poor and some conodonts are strongly deformed. Conodont colour is black, corresponding to a Color Alteration Index (CAI) of 5.

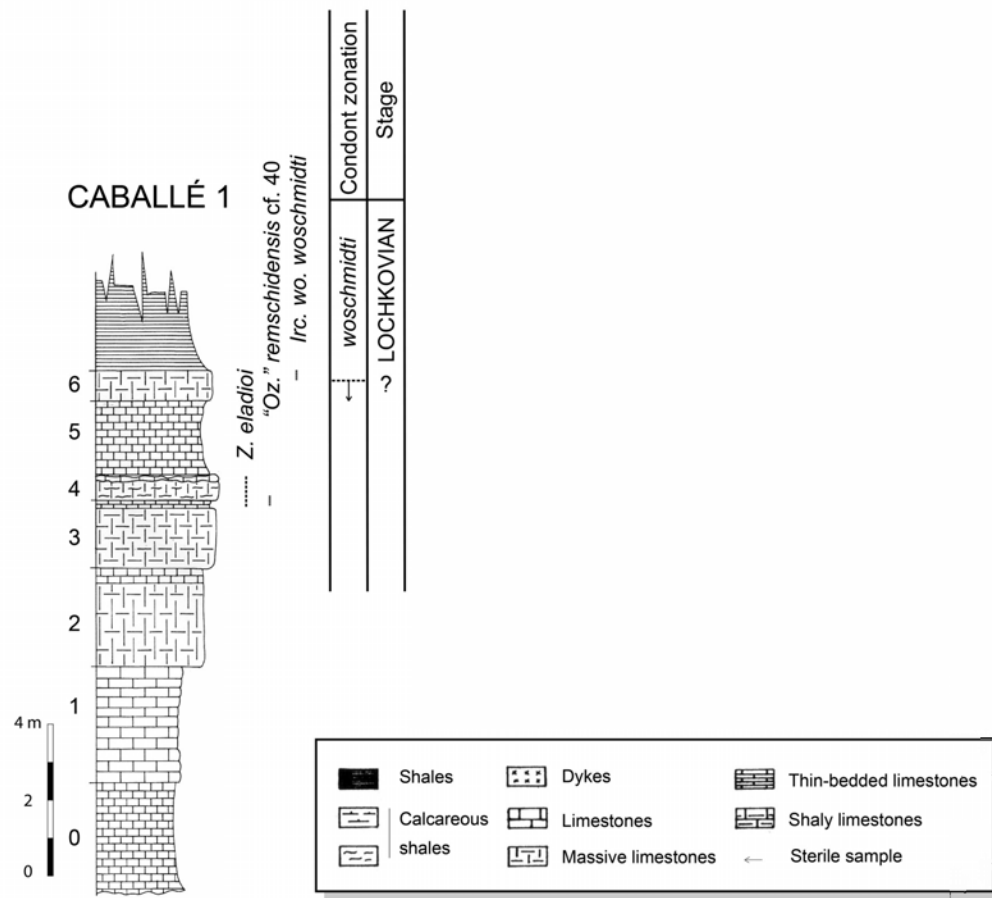
Three taxa belonging to two genera (*Zieglerodina* and *Icriodus*) have been identified (Fig. 3).



**Figure 2.** **A.** View of the Orthoceras Limestone at Caballé-1 Section; probably upper Pridoli. **B.** Orthoceras Limestone, General view of Bed 2, upper Pridoli?. **C.** General view of the Silurian/Devonian transition within the Orthoceras Limestone at Caballé-1 section. At the top, Bed 6 yielded *I. woschmidti*. **D.** View of the sample position that yielded *Icriodus woschmidti* in the uppermost part of Bed 6.

### Biostratigraphy

The record of *Zieglerodina?* cf. 40 and *Z. eladioi* in the upper 7 cm of Bed 3 could correspond either to the uppermost Pridoli or to the basal Lochkovian. Current data from Caballé-1 section doesn't allow further discrimination. The entry of *Icriodus woschmidti* in the uppermost 10 cm of Bed 6 indicates that this level corresponds already to the Lochkovian *woschmidti* Zone that according to Carls et al. (2007) is not the basal Lochkovian Zone, but starts slightly higher within the lower half of the lower Lochkovian.



**Figure 3.** Stratigraphic column of the Caballé-1 section and conodont distribution (based on Valenzuela-Ríos, 1994).

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