Devonian conodonts of the Plabutsch Formation (Graz Palaeozoic)

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In the Graz Palaeozoic two nappes are discriminated within the shallow marine sequence where the Plabutsch Formation (HUBMANN & MESSNER 2005) is outcropping. They are called Rannach and Hochlantsch Nappe. The type section of the Plabutsch Formation (HUBMANN 2003, cum lit.) is located along the forest road Attems at the southern slope of the Frauenkogel (561 m above sea-level) northwest of Graz. It is characterized by fossiliferous marls alternating with shale at the base (Gaisberg Bed) succeeded by well bedded bioclastic limestones. Maximum thickness is estimated less than 100 m. Three sections were sampled for conodonts, two of them in the Rannach Nappe (forest road Attems, road-cut section near St. Pankrazen) and one in the Hochlantsch Nappe (Tyrnaueralm section) to constrain the age of the Plabutsch Formation. Until now mainly icriodontids were obtained. Only some samples yield ozarkodinids and polygnathids.

From the section at forest-road Attems 43 samples (between 1-7 kg) have been dissolved. Here mainly the lowermost part of the unit which is assigned to the Gaisberg Bed yielded a very rich icriodontid fauna (Fig. 1: A-C). Above this unit only few limestone beds provided conodonts. Obtained were some ozarkodinid Pa elements that belong to the genus *Pandorinellina* (Fig. 1: D). Additionally some simple cones such as *Neopanderodus* sp. (Fig. 1: E) and a few icriodontid I elements occurred near the middle of the formation. The assemblage hints to a very shallow marine rather high energetic and turbulent milieu also implicated by microfacies studies and rock geochemistry.

At the St. Pankrazen road-cut 7 samples (between 1-2 kg) have been dissolved. Samples of this section did not yield many conodonts. Only few indeterminable elements were observed near the top of the Plabutsch Formation. The fragments were recognized as I elements of *Icriodus*.

At the Tyrnaueralm section 9 of 24 samples (between 1-5 kg) have been dissolved up to now. This section is most promising for biostratigraphically constraining the Plabutsch Formation and will be sampled more densely in future as some limestone beds yield not exclusively icriodontids and some simple cones, but also polygnathids. They were found slightly above the base of the lower formation boundary, and are identified as Pa elements of *Polygnathus serotinus* (Fig. 1: F). This species unfortunately has a wide range, but at least it concludes that the lower boundary of the Plabutsch Formation is Emsian – Eifelian in age (range of *Polygnathus serotinus*: *serotinus* Zone – *costatus* Zone).

References:

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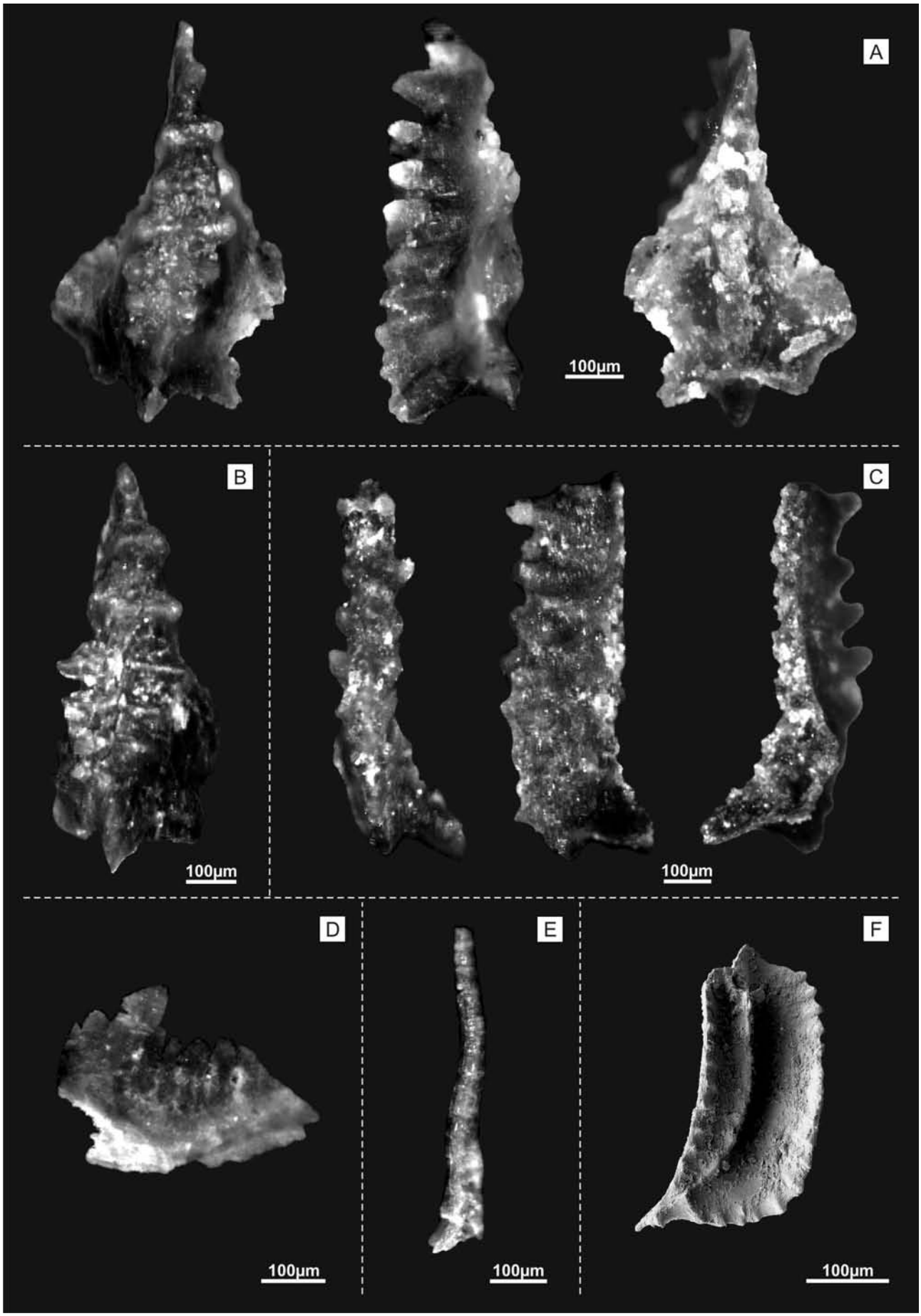
HUBMANN, B. & MESSNER, F. (2005): Grazer Paläozoikum. - Exkursionsführer 75. Jahrestagung der Paläontologischen Gesellschaft, Institut für Erdwissenschaften Graz: 1-47.

Fig. 1: A. *Icriodus* sp., upper, lateral and lower view (forest road Attems, sample GB/01); B. *Icriodus* sp., upper view (forest road Attems, sample GB/01); C. *Icriodus* sp., upper, lateral and lower view (forest road Attems, sample GB/01); D. *Pandorinellina* sp., upper view (forest road Attems, sample PL/02); E. *Neopanderodus* sp., lateral view (forest road Attems, sample PL/02); F. *Polygnathus serotinus* TELFORD, upper view (Tyrnaueralm, sample Ty/02).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