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A FIELD TRIP THROUGH THE KORALPE

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Introduction

The Kor- and Saualpe region of the Eastern Alps is one of the most geologically varied areas of the Alps. It contains spectacular outcrops of eclogite facies metamorphic rocks including the type locality eclogites, one of the largest shear zones of the Alps (the 1 km thick Plattengeiss shear zone) and an amazing variety of well preserved high grade metamorphic lithologies and structures. It also features view points from where an astounding range of geological features can be seen: The summit of the Speikkogel in the central Koralpe allows the simultaneous views of one of the most famous sedimentary basins: the Pannonian basin; (ii) one of the batholiths along the Periadriatic line (the Pohorje batholith some 30 km in the south); (iii) several Cenozoic volcanoes in the Styrian basin to the east; (iv) The Triassic limestone ranges of the Karawanken (some 50 km in the SW), (v) The Cretaceous Kainacher Gosau basin; (vi) a Tertiary coal field (in the Köflach region) and (vii) the Palaeozoic of Graz (about 50 km to the north). The post conference field trip of the PANGEO meeting will cover several of these highlights. This poster summarizes some of the key features of the field trip.

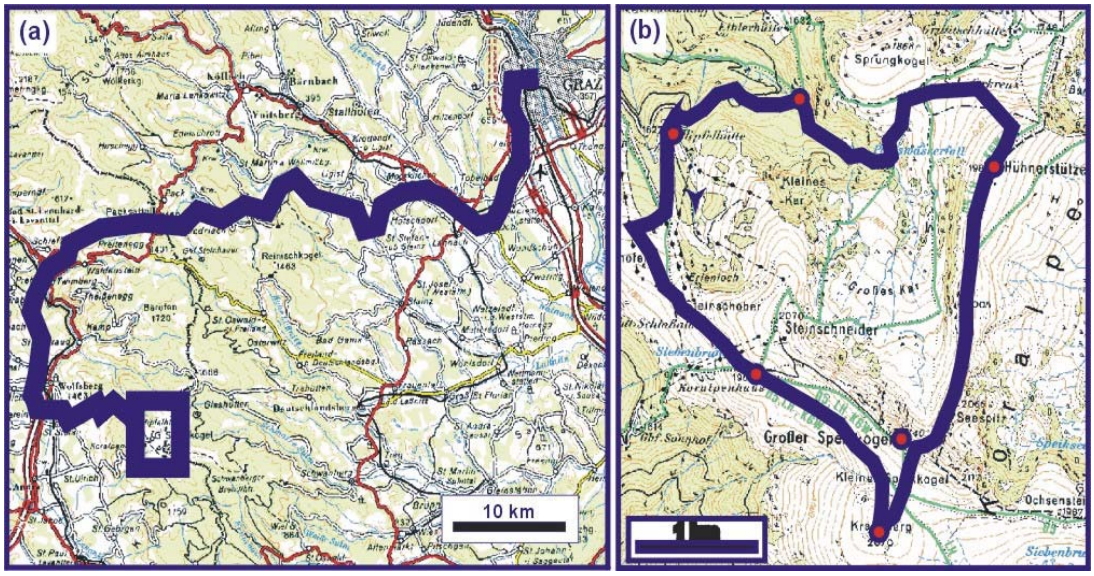

Fig. 1: Routing and locality of the post conference field trip. (a) Location of the Koralpe region with respect to Graz. The driving route is marked by the thick black line. The box shows the area enlarge in b. (b) The walking route of the field trip. The locations marked by the dots are those also shown on Fig. 2 and listed in Table 1. Maps were produced using the software Austromap of the BEV.

Logistics of Field trip

The field trip will lead by car from Graz about 80 km across the Pack saddle to the west side of the Koralpe. From there a winding road follows 15 km to an elevation of 1627 meters above sea level where the cars will be parked at the Hipfelhütte. The drive from the University of Graz to the Hipfelhütte is easily done in 1.5 hours. The route of the walk is shown on Fig. 1 and the distances and vertical meters summarized in Table 1. The walk will be 5 - 7 hours.

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Hipfelhütte	-	Koralpenhaus (1966)	2.6 km	340 HM
Koralpenhaus	-	Krakaberg (2070)	1.8 km	100 HM
Krakaberg	-	Speikkogel (2140)	0.8 km	60 HM
Speikkogel	-	Hühnerstütze (1989)	2.6 km	down
Hühnerstütze	-	Rassingbach (1520)	3.0 km	down
Rassingbach	-	Hipfelhütte (1627)	1.2 km	100 HM

Table 1. Distances and elevations of the walk during the field trip.

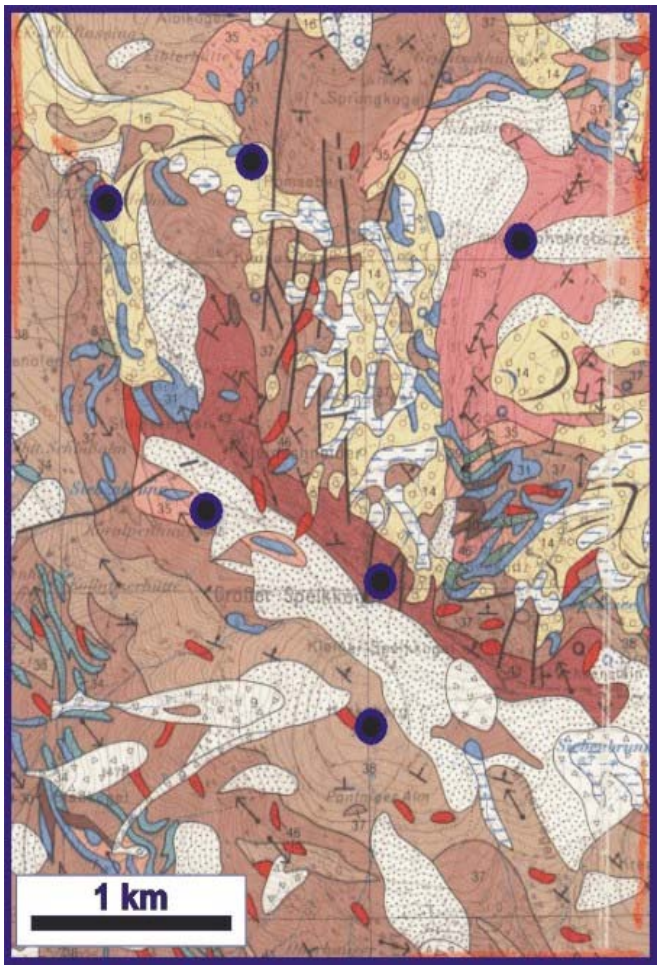

Fig. 2: Geological map of the post conference field trip walking route. The area shown is the same as that on Fig. 1b. The black dots correspond to the localities also marked on Fig. 1 and listed on Table 1. Note the arc-shaped arrangement of the lithological units that reflects the kilometer scale open synform with a shallow east plunging axis in the region (Putz, 2004). The map is part of the geological map sheet "Wolfsberg" sheet 188 (Beck Managetta, 1980).

Points of geological interest

The walking route features a number of geological highlights that are listed here in a brief point form and are illustrated on the poster (Fig. 2).

- *Hipfelhütte-Krakaberg*: The first hours walk will lead past a number of typical lithologies of the Koralpe including high grade metapelitic gneisses (gt-bi-mu-ky-q), marbles and tourmaline-bearing pegmatites.
- *Krakaberg*: The Krakaberg features outcrops of the "paramorphose-schist" with meter sized paramorphoses of kyanite after andalusite which may be recognized from its preserved crystal morphology and chiastolite crosses. This paramorphism clearly

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indicates that the Krakaberg location remained undeformed during the Eo-Alpine (Traussnig, 2003).

- *Krakaberg*: An important point to discuss at this location is the fact that the Krakaberg is a mere 200 meters structurally below the Plattengneiss shear zone. If the Plattengneiss was mylonitized during the Eo-Alpine and the kyanite paramorphosis indicates that the Krakaberg remained unaffected by Eo-Alpine deformation, then an astounding strain gradient exists between the two locations.
- *Speikkogel*: Views of the Styrian basin, the Pohorje Range, the Karawanken, the Kainacher Gosau, the Köflach basin and the Palaeozoic of Graz.
- *Kleiner Speikkogel - Seespitz*. Just below the Speikkogel on between "Kleiner Speikkogel" and "Seespitz" a 'space problem' during the post-eoalpine deformation between the Plattengneiss and the paramorphose-schists lead to a highly deformed small area including marbles and other rock types. The walk along this section also leads across several kyanite-bearing quartz veins.
- *Seespitze - Hühnerstütze*: From here, the walk leads us normal to strike and a large number of lithologies can be seen. The walk leads us past marbles, garnet mica schists (with kyanite-filled garnet porphryroblast up to 5 cm in size) and eclogites (strongly retrogressed to amphibolites in the location along the walk).
- *Hühnerstütze*: Outcrops of typical Plattengneiss rocks.
- *Hühnerstütze - Poms Waterfall*: Large white quartz blows, pegmatites and marbles.

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