Ore of the Alps, Austria

Geology - General geologic setting and international significance

The Geopark “Ore of the Alps” is mainly situated in the Graywacke Zone (Palaeozoic clastic rocks rich in mineral deposits) of Austria. The northern fringe of the Geopark belongs to the Northern Calcareous Alps, the southern one to the Central Alps. The most important rocks of the three geological units are slates, graywackes, phyllites, limestones and dolomites. These rocks are often covered by quaternary sediments (till, silt, gravel) from the Salzach glacier. The morphological inventory is manifold. Carbonate cliffs, waterfalls, gorges, springs, rock falls, earth pillars, terraces, cirque lakes, roche moutonées etc. can be discovered. But most important for the Geopark are the ore deposits. Copper, iron and gold form the basis of ancient mining, which began 5000 years ago. During the Bronze-Age the copper mines - which can be visited as show mines today, played a dominant role all over Europe. Nowadays mining is history - but the memory of this long-lasting mining tradition in the core of the Geopark is still alive.

Besides the copper trail some 80 geosites (www.geopark-erzderalpen.at) can be visited. They reflect the rich geodiversity and outstanding heritage of the Geopark Ore of the Alps.

Geography and size

The Geopark is located in the geographic centre of the Province of Salzburg, the District of Pongau. The main historic villages of Pongau, Bischofshofen as well as Mühlbach am Hochkönig, Hüttau and St. Veit and their surrounding lands are part of the Geopark. The most important road, which crosses the Geopark, is the north-south running A10 “Tauernautobahn”. The territory of the Geopark (211 km²) is situated in the so-called “Innergebirg” (inner mountain area) of Salzburg. The Hochkönig mountain range in the Northern Calcareous Alps, which partly belongs to the Geopark village Mühlbach, has an altitude of 2941 m, and hosts a permanent glacier, the so called “Übergossene Alm” (= covered Alm). The main area of the Geopark is located in the mountainous region of the Graywacke Zone with pastures and forests up to 2000 m. The highest peak is the Hochgründeck with 1827 m.

The main valley, which crosses the Geopark area, is named after the river Salzach. It is deeply incised into the soft rock material of the phyllite. All other valleys are formed as gorges, like the Mühlbachtal, Fritztal etc., with extremely steep slopes on both sides.

Education and Sustainable Development

The Geopark is administered by the visitor centre in Bischofshofen, which gives an outstanding overview of the Geopark. The guest can receive further advice about activities in the Geopark and can admire a spectacular special exhibition, they will be informed about the geological heritage and hiking trails. The fascinating copper trail connects the visitor centre, museums and show mines of the Geopark-villages, but that is not all. Along the way you can find info panels, adventure stations, natural playgrounds, relaxation oases, barbecue and picnic sites, etc. You will pass traces of ancient mining activities as well as interesting geological outcrops, breathtaking waterfalls, steep walls or deeply eroded creeks. Old trees, moors and picturesque lakes complete the natural variety. On the other hand numerous cultural highlights like small churches, chapels, ruins etc. lighten the trail. Especially noteworthy are the awesome views. Sustainable tourism development which raises awareness for the nature in general and geosciences in particular through education as well as environmental programs like “urban mining” are especially focused in the Geopark Ore of the Alps.

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Fig. 1 Map of Austria showing the location of Global Geopark “Ore of the Alps” in the centre of the country.

Fig. 2 Map of Ore of the Alps Global Geopark / Salzburg showing the border to Germany in the north (bold red line) and the borders to the Austrian Provinces Tyrol, Styria and Upper Austria (regular red lines), villages and main roads. All four Geopark communities are situated in the district of Pongau. The visitor centre is located in the village of Bischofshofen. The Geopark stretches between the latitude $13^\circ02'34,6''$ E / $13^\circ22'12,3''$ E and the longitude $47^\circ29'09,3'\ N$ / $47^\circ15'45,8''\ N$ and is situated entirely within the Austrian topographical map at the scale 1:50.000, sheet 125 - Bischofshofen (AMap Fly, BEV).
Fig. 3 Detailed map of Global Geopark “Ore of the Alps” showing the topography with the boundary of the Geopark area, villages and main roads (GIS Salzburg).