Blatt 150 Mayrhofen

Siehe Bericht zu Blatt 149 Lanersbach von JERZY ZASADNI

Blatt 154 Rauris

Bericht 2010 über geologische Aufnahmen der quartären Sedimente im Naßfeld und Umgebung (Gasteinertal) auf Blatt 154 Rauris

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The investigated area consists of three different geomorphologic zones, each with different Quaternary sediments and landforms. The Naßfeld valley is the largest of these zones: its wide and relatively flat floor is formed from the remnants of a moraines, fluvioglacial sediments, and postglacial alluvia. On either side of the Naßfeld valley are slopes and hanging valleys with moraines from Holocene and contemporaneous glaciers. Finally, the narrow, incised Nassfelder-Ache valley forms a steep outlet from the Naßfeld valley towards the north-east.

The Naßfeld valley stretches from the foothills of Tauernleiten in the south-east (ca 1700 m a.s.l.) to Schöneggalm in the north (ca 1550 m a.s.l.), a few hundreds meters below the junction with the Siglitz valley. There are two or three terraces between 3 and 15 m above the relatively flat valley floor. These terraces have a complex structure: they consist essentially of fluvioglacial debris, gravel, and sand, and probably also of kame gravel, sand and silt. Numerous small hills between 2 and 10 m high, mostly elongated north-northwest–south-southeast but some also with irregular shapes, protrude from the terraces. Some of these hills are covered with large erratic blocks. Similar blocks can also be seen in places on the flat terrace surfaces, particularly in the central part of the valley around Naßfeldalm. The hills are remnants of moraines. Those that form a crescent open to the south-west, at the foot of a large fluvioglacial fan near the outlet of the Schlapperebenbach valley, are remnants of the end moraine of a Little Ice Age (ca 1850) glacier (as mapped by Ch. EXNER, Geol. Karte Umgebung Gastein, Geol. B.-A., 1956). The moraine hills on the other (eastern) side of the Naßfeld creek are remnants from the maximum extent of this glacier. The moraines have been strongly eroded since the 1850 maximum by proglacial waters that subsequently covered the area with outwash sediments. These can be seen as horizontally-bedded or cross-bedded, coarse to fine grained sediments in a small outcrop (old gravel pit?) in the escarpment on the north side of the Schlappereben creek, just west of the road bridge.

The lower slopes of the Naßfeld valley are largely covered with rock debris and patches of moraine. The moraine forms particularly extensive and continuous cover on the north-east side of the valley (between the mouth of the Weißenbach valley to the south-east, and Schöneggalm to the north), where it extends up to 1750 or 1850 m a.s.l. Up to 3 more or less pronounced steps can be seen on this slope, probably marking the extent of the glacier during the Würm post-maximum stages. Peat-bogs (currently protected) have developed on some of these steps.

A very well pronounced slope step occurs on an altitude of about 1900-2000 m a.s.l. and extends south from the vicinity of Mooskarl for some distance up the Weißenbach valley. Gently sloping areas above this step are probably part of a valley shoulder that developed during the late part of the Würm glacial stage.

The slopes on the south-west side of the Naßfeld valley are mostly rocky, with only few patches of moraine. A large landslide on the slope to the west of Moisesalm probably occurred during the post-1850 warming.

Parts of the slope on the north-west side of the Naßfeld valley (above Sportgastein) have been modified by intensive mining activities that lasted from the nineteenth century until the middle of the twentieth century.

The mouth of the Bockhart valley hangs above the deep, narrow gorge of the Naßfelder-Ache valley. Its south and south-west slopes are covered with large fields of slope debris and debris fans, as well as the end moraines of glaciers that probably ranged in age from the late Holocene to historical times. Some of the debris fields are likely to have been active quite recently as rock glaciers. Steep and shaded slopes, couloirs, cirques, and depressions were good places for preserving glacial ice, probably until quite recent times. Actually, the Bockhart valley itself is not glaciated. Another end moraine and large debris fields that have at least in part been active rock glaciers in the past, occur in the south-facing cirque to the south of the Kleiner Silberpfennig peak.

Quite fresh traces of mining activity extend in a north-south direction along two silver-bearing veins in the upper part of the Bockhart valley. A large artificial lake (Untere Borckhartsee) occupies the lower part of the valley, above a steep rocky slope that drops down more than 400 m to the Naßfelder-Ache gorge. The rocky ridge that blocks the Borckhart valley has been overbuilt to form an artificial dam; a small patch of moraine is preserved on its south-west end, just below the Borckhartseehütte.

Glacial landforms and sediments are almost completely absent from the Siglitz valley, except for the large Bräuwinkel cirque to the north of the Schareck peak in which a prominent end moraine from a Little Ice Age glacier and its subsequent stages has been preserved. A small ridge located a few hundred meters east of the Riffelscharte pass (north-east of the Niedersachsenhütte) is probably a remnant of an end moraine from a small glacier that flowed in historical times towards the south from an unnamed peak 2522 m a.s.l.

There is a series of very well-defined large cirques to the south-west and west of the Naßfeld valley which, together with the valley itself, form a high mountain landscape of quite unique beauty. These are the Schlapperebenkar, Röckkarl, Silberkarl (both between Schlapperebenkar and Höllkar; EXNER, 1956), Höllkar and Eselkar cirques, all of which bear well-preserved traces of glaciations from the past 150 years including end and lateral moraines, currently inactive rock glaciers, debris fields, and debris fans. Höllkar is the most impressive of these cirques; its step is nearly 350 m high forming a vertical or overhanging wall over which the Höllkarbach stream forms a waterfall before flowing north towards Veitbaueralm.

The Weißenbach valley forms part of the headwaters of the Naßfeld valley, draining from the south-east and east. The moraine that covers the slopes of the Naßfeld valley downstream continues up this valley on both sides, but only reaching to a much lower height (50–150 m) above the valley floor. The low, crescent-shaped ridge located north of Tauernleiten is probably an end moraine of early to middle Holocene age.

A large area of well-preserved glacial sediments (lateral and end moraines) exists in the Ödenkar cirque, extending as far as Sonnenalm (ca 1100 m s.s.l.). Isolated patches of the moraine also occur below the Knappenbäudlsee lake and Schideck, at a similar altitude to Sonnenalm. Moraine fields with a well preserved end moraine ridge can be seen on the other side of the Radhausberg ridge, in the Blumfeld cirque.

The deep, narrow Naßfeld-Ache gorge contains hardly any Quaternary sediments or landforms. Only in the vicinity of Astenalm does the valley floor broaden out, and there it is covered with coarse-grained alluvium and alluvial fans. The morphology of north-west slope leading down to the gorge, above Ortalm, suggests a landslide or rockfall which, although now inactive, could if remobilized threaten the main road along the valley road.

Present-day glacial and periglacial phenomena are common within the investigated area. Active glaciers occur north-east of the Schareck peak (the Schareckkees glacier), north of the Herzog-Ernst Spitze peak, east of the Baumbachspitze peak, and north of the Schlapperebenspitzen peak (the Schlapperebenkees glacier). These areas have not been inspected because of their inaccessibility following snow falls in the middle of September.

Solifluction debris flows (appearing as lobes) are rather common in the upper parts of the north-west, north and north-east facing slopes, particularly north-east of the Seekopf peak, north-east of the Aperes Schareck peak, south-east of the Knappenbäudlsee lake, and north-west of the Mallnitzer Tauern pass.

Bericht 2009 und 2010 über geologische Aufnahmen auf Blatt 154 Rauris

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In beiden Berichtsjahren wurden die Revisionskartierungen des gegenständlichen Kartenblattes im Grenzbereich Rauristal – Hüttwinkltal und am Talschluss des Hüttwinkltals südlich von Kolm Saigurn fortgesetzt. Die Aufnahmen konzentrierten sich zum einen auf das Glockner-Deckensystem, und zwar auf jene Bereiche, die sich von Rauris über den Retteneggwald, den Fröstlberg bis ins mittlere Hüttwinkeltal erstrecken. Zum anderen wurde der schon zur Goldberggruppe zählende Nord-Rand des Sonnblick-Kerns zwischen dem Pilatuskees, der Neubau-Hütte und dem Wurtenkees kartiert. Die Dokumentation der neuen Kartierungsergebnisse im Rahmen des diesjährigen Berichts wird aber textlich eher knapp gehalten, da der Hauptteil des Berichtes der Beschreibung der tektonischen Einheiten und ihrer hierarchischen Gliederung gewidmet ist, die ein wichtiges Ordnungskriterium der Kartenlegende darstellt. Im Speziellen wird der tektonische Internbau der penninischen und subpenninischen Einheiten im Bereich der mittleren Hohen Tauern beschrieben. Dabei werden auch die von Forschergenerationen analysierten und benannten Deckeneinheiten im Lichte von Metamorphose-Ereignissen und plattentektonischen Prozessen betrachtet. Die am Kartenblatt 154 Rauris vertretenen tektonischen Einheiten werden gemäß ihrer tektonischen Hierarchie geordnet und definiert. Die verfassten tektonischen Definitionen sollen in weiterer Folge in den *Thesaurus der tektonischen Einheiten* eingearbeitet werden, der an der Geol. B.-A. zurzeit entwickelt wird, um eine Legenden-Harmonisierung der digitalen Geologischen Karten zu ermöglichen. Im Speziellen geht es um die Legenden-Harmonisierung des in Bearbeitung befindlichen Kartenblattes GÖK 154 Rauris und zahlreicher benachbarter geologischer Karten, die sich im Falle von GÖK 155 Bad Hofgastein, GK UTM Blatt Lienz-Ost und GK UTM Blatt Obervellach ebenfalls zurzeit in Bearbeitung befinden oder die bereits in früheren Jahren fertiggestellt und ausgedruckt wurden, wie beispielsweise GÖK 122 Kitzbühel, GÖK 123 Zell am See, GÖK 151 Krimml, GÖK 152 Matrei in Osttirol, GÖK 153 Großglockner, GÖK 156 Muhr, GÖK 157 Tamsweg und GÖK 182 Spittal an der Drau. Alle Definitionen beruhen auf der Bewertung von Literaturdaten und eigenen Geländekenntnissen beider Kartenblattbearbeiter. Folgende am Kartenblatt Rauris vertretenen tektonischen Einheiten werden in diesem Bericht behandelt:

1) Die zum subpenninischen Venediger-Deckensystem gezählten Einheiten (Sonnblick-Kern, Neubau-Decke, Romate-Decke)
2) Die Mallnitzer Mulde
3) Das Modereck-Deckensystem als neues, zweites subpenninisches Deckensystem und die zu diesem gezählten Einheiten (Seidlwinkl-Decke, Trogereck-Schuppe)
4) Die Untergliederung des Glockner-Deckensystems in eine Glockner-Decke s.str. und in die Rauris-Decke.

ad 1) Internbau des Venediger-Deckensystems am Kartenblatt Rauris

Das Venediger-Deckensystem, die tektonisch tiefste, regional verbreitete Großeinheit des Tauernfensters wurde von FRISCH (Geol. Rundschau, 65, 1976; N. Jb. Geol. Paläont. Mh., 1977) basierend auf den Überlegungen von STAUB (Beitr. Geol. Kt. Schweiz, 52, N.F. 82, 1924) begrifflich neu gefasst und von SCHMID et al. (Eclogae geol. Helv., 97, 2004) als subpenninisches Deckensystem definiert.

Eine aktuelle zusammenfassende Beschreibung des Venediger-Deckensystems wird in den Erläuterungen zur Geologischen Karte von Salzburg (1:200.000) gegeben, die im