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Hypabyssical rocks from the western Goldeck group

In the course of field work in the western part of the "Goldeck Gruppe" basic hypabyssical rocks have been newly found at five localities; large boulders at two other places point to further occurrences. Until now similar rocks have been reported from Drauhofen (at the mouth of the Möll river: ANGEL & KRAJICEK 1939) and from the outer Nigglaigraben (eastern Kreuzeck group; ANGEL 1930); today these outcrops are not longer exposed.

It is considered to be of importance that one of the dikes unconformably cuts the epimetamorphic sericite-chlorite-phyllites of Lower Paleozoic age (southern slope of "Siflitzgraben", 1 km E Schwandlhtt., ÖK 1 50.000, sheet 182) but itself displays no features of cleavage. From a comparable rock in the "Kreueck-Gruppe" (ridge between Salzkofel and Kreuzeck, ÖK 1 50.000, sheet 181) a radiometric K/Ar-biotite-age of 35$\pm$ 2 my (HAWKESWORTH 1974) is published. Thus it is determined that the deformation of the Goldeck group has been finished mainly not later than Oligocene.

All the other localities are situated along the road from Sachsenburg via Bärnbad to the End of the Siflitzklamm. Here the lamprophyres cut across the structures of the underlying garnet-mica-schists which are, at least, for a good part of Lower Paleozoic age. This age determination of the country rock is confirmed by stem plates of crinoids found in light coulored, banded calcareous marbles of the "Altkristallin", and by lithostratigraphical comparisons (intercalations of graphitic calcareous marbles).

ANGEL & KRAJICEK 1939 consider these lamprophyres which occur frequently in the Kreuzeck- and -Schober groups and with the Rieserferner tonalite to be related with the dike swarms of this tonalite.

Petrologically these greyish green massiv rocks range from "spessartites" to "malchites". More than 50 vol% of the mode consists of hornblende-phenocrysts accompanied by biotite; feldspars (plagioclase, very seldom orthoclase), quartz,

apatite and opaque minerals form a fine-grained groundmass. To the margins of the 1-4m thick dikes, the size of the phenocrysts (here mainly biotite increases considerably. ANGEL & KRAJICEK 1939 gave to these rocks the local name "Lurnfeldit". Two chemical analysis have been performed until now; the following data have been obtained:

	HACKL & FABICH 1952	DEUTSCH 1976
SiO_2	46.12	44.89
TiO_2	2.16	2.41
Al_2O_3	13.96	17.24
Fe_2O_3	2.95	
FeO	6.26	10.07
MnO	0.15	0.11
CaO	8.60	7.92
MgO	9.31	8.06
K_2O	3.04	1.53
Na_2O	2.82	2.87
H_2O	2.52	3.19
P_2O_5	0.56	0.33

An exact petrographical treatment, more chemical analyses, and investigations of single phases by the means of microprobe (Dr.F.KOLLER, Univ.Wien) are in progress. Results are to be displayed in February 1977.

References

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