blieben auch nach dem Tod von Goethe und Lenz erhalten, waren aber im Verhältnis zur Goethezeit weniger intensiv. Erst 1846 wurden wieder neun neue österreichische Mitglieder aufgenommen, welche auch Mineralien schickten. Erst ab 1856, als Ernst Erhard Schmid (1815-1885) zum Ordinarius für Mineralogie und Geognosie berufen wurde, kam es im Rahmen der von ihm eingeleiteten Reorganisation der Sozietät auch wieder zu einer Vertiefung der Beziehungen zu Österreich. Neue Mitglieder von dort wurden aufgenommen, als bekannteste Persönlichkeiten wohl Wilhelm Haidinger und Franz von Hauer aus Wien, aber auch einige Professoren aus Graz und nicht zuletzt der Mineralienhändler Gebhardt aus Innsbruck.

Doch auch E. Schmid konnte trotz aller Bemühungen den sich bereits nach dem Tod von Goethe abzeichnenden Verfall der Jenaer Mineralogischen Sozietät nicht aufhalten und so stellte diese nach seinem Tod ihre Tätigkeit ein.

Akten der Jenaer Min. Ges. Best. u. Abt. IX, No. 55, 56; Suiten Katalog No. I - III; Korrespondenz 1831-1884.

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PTERIDOPHYLL LEAVE FRAGMENTS FROM THE MAURERTAL/ GROSSVENEDIGER

FRANZ*, G., MOSBRUGGER, V., MENGE*, R.**

* Fachgebiet Petrologie, Technische Universität Berlin, Straße des 17. Juni 135, D-1000 Berlin 12
** Institut für Paläontologie, Universität Bonn, Nußallee 8, D-5300 Bonn 2

In the upper Maurertal, north of the Essener Rostocker Hütte, fragments of leave fossils were found in a graphite schist. The rock is part of the basement complex (Lower Schieferhülle, overlying the Venediger Zentralgneis) which consists mainly of biotite-muscovite gneisses, amphibolites, metamorphosed migmatites and relicts of eclogites. The basement is overlain by strata of mesozoic age (Upper Schieferhülle); in the border zone there are questionable remnants of the Eclogite Zone, a sequence which experienced high pressure metamorphism.

The mineralogy of the hand specimen with the fossils is 20 vol% (estimated) graphite, 40% phengite (Si 3.35 p.f.u.), 20% quartz, 10% plagioclase (An 17%), biotite, garnet (Alm 77%, Gro 14%, Pyr 6 to 7%, Spe 2%), rutile, ilmenite, secondary chlorite. It shows a well developed foliation, folding crenulation and a slight axial plane foliation. Strain markers indicate a strong compressional deformation with high volume loss by pressure solution, but without shearing. Maximum metamorphic conditions for the area are estimated as > 500 °C, P > 6 kbar.

Two pteridophyll remains, both about 3 cm long, are exposed at the surface. One specimen represents the terminal part of a last order pinna with a rachis 0.8 mm wide. The pinna consists of 5 nearly opposite pairs of pinnules which pass into a terminal part with indistinct lobes. The venation pattern is poorly preserved. The leave is best determined as cf. Callipteridium pteridium, a genus of Permo-Carboniferous pteridosperms but could also represent a fragment of Alethopteris. Independent of any generic determination, the maximum stratigraphic age is Carboniferous; Callipteridium pteridium is typical for Stephanian with rare occurrences in the Lower Permian, Alethopterids occur in the Upper Carboniferous and Lower Permian. The stratigraphic age is therefore in the same range as the intrusion ages determined for the Zentralgneis in this area.

THE TWO PHASE REGION BETWEEN ORTHO- AND CLINOZOISITE

FRANZ*, G., SELVERSTONE, J.**

* Fachgebiet Petrologie, Technische Universität Berlin, Straße des 17. Juni 135, D-1000 Berlin 12
** Department of Earth and Planetary Sciences, Harvard University, Cambridge MA 02138, USA

Analyses of natural coexisting clino- and orthozoisite can give some constraints about the position of the two phase region in dependence of P and T. We analysed epidote minerals from rocks with different P-T-history (Dorfer Tal and Frosnitztal, Tauern: 20 kbar/600 °C with retrograde equilibration; Weissenstein, Münchberger Gneismasse: < 10 kbar/620 °C with retrograde equilibration; Schwingen, Münchberger Gneismasse: < 4 kbar, 400 °C). For the high P-T-rocks we could confirm a transition loop from - 15 to - 30 mole % Al_2Fe consistent with data by ACKERMAND & RAASE (1973), but significantly smaller than that given by ENAMI & BANNO (1980) and the experimental data by PRUNIER & HEWITT (1985). Retrograde reequilibration at low P and T yields epidote compositions inconsistent with the transition loop. Also, minerals from low P-T-rocks span the whole range between 5 and 30 mole % Al_2Fe of the proposed transition loop. We conclude that in addition to temperature, pressure plays a very important role; variations of mineral assemblages can be explained in a hypothetical P-T-x diagram.

Epidote minerals from the above mentioned localities show a complex growth zoning pattern which is only slightly modified by diffusion. This indicates that they may be potentially useful as petrogenetic indicators, but analyses have to be carried out with a back-scattered-electron image system in order to obtain interpretable results.

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