

THE AMERICAN MINERALOGIST

Journal of the Mineralogical Society of America

Numbers 7 and 8

Volume 71



July–August 1986

Washington, D.C.

CONTENTS

Behavior of alkali feldspars: Crystallographic properties and characterization of composition and Al-Si distribution	Guy L. Hovis	869
Chloritoid-sillimanite assemblage from North Carolina	Daniel J. Milton	891
Myrmekite replacing albite in prograde metamorphism	John R. Ashworth	895
Hydration of cordierite and hypersthene and a description of the retrograde orthoamphibole isograd in the Limpopo belt, South Africa	Dirk D. van Reenen	900
Ba-rich adularia from the Ouachita Mountains, Arkansas: Implications for a postcollisional hydrothermal system	Kevin L. Shelton, John M. Reader, Louis M. Ross, George W. Viele, and David E. Seidemann	916
Phase equilibria and crystallochemical properties of Mg-chlorite	David M. Jenkins and Joseph V. Chernosky, Jr.	924
Phase transitions in leucite (KAlSi_2O_6), orthorhombic KAlSiO_4 , and their iron analogues (KFeSi_2O_6 , KFeSiO_4)	Rebecca A. Lange, Ian S. E. Carmichael, and Jonathan F. Stebbins	937
Pyroxene exsolution in granulites from Fyfe Hills, Enderby Land, Antarctica: Evidence for 1000°C metamorphic temperatures in Archean continental crust	Michael Sandiford and Roger Powell	946
Mössbauer spectral study of ferruginous one-layer trioctahedral micas	M. Darby Dyar and Roger G. Burns	955
Cathodoluminescence and minor elements in forsterites from extraterrestrial samples	Ian M. Steele	966
Synthesis and characterization of tourmaline in the system $\text{Na}_2\text{O}-\text{Al}_2\text{O}_3-\text{SiO}_2-\text{B}_2\text{O}_3-\text{H}_2\text{O}$	Philip E. Rosenberg, Franklin F. Foit, Jr., and Vanavan Ekambaram	971
High-pressure crystal chemistry of beryl ($\text{Be}_3\text{Al}_2\text{Si}_6\text{O}_{18}$) and euclase ($\text{BeAlSiO}_4\text{OH}$)	Robert M. Hazen, Andrew Y. Au, and Larry W. Finger	977
Jerrygibbsite-leucophoenicite mixed layering and general relations between the humite and leucophoenicite families	Yu-Chyi Yau and Donald R. Peacor	985
Variations in the framework structure of the zeolite ferrierite	Brad K. Smith	989
Order-disorder phenomena in MgAl_2O_4 spinel	Bernard J. Wood, R. James Kirkpatrick, and B. Montez	999
Mo-MoO ₂ (MOM) oxygen buffer and the free energy of formation of MoO ₂	H. St. C. O'Neill	1007
Crystal structure of a Cu-bearing vesuvianite	Sharon Fitzgerald, Arnold L. Rheingold, and Peter B. Leavens	1011
Electronic structure of Fe in some minerals, derived from iterative extended Hückel theory (IEHT), multiple scattering $X\alpha$ (MS- $X\alpha$) calculations, and Mössbauer measurements	Laurence P. Aldridge, Eckhard Bill, Rainer Bläs, Siegfried Lauer, Vishnu R. Marathe, Andrzej Sawaryn, Alfred X. Trautwein, and Heiner Winkler	1015
Ammonioleucite, a new mineral from Tatarazawa, Fujioka, Japan	Hidemichi Hori, Kozo Nagashima, Manabu Yamada, Ritsuro Miyawaki, and Takeshi Marubashi	1022
Kimuraite, $\text{CaY}_2(\text{CO}_3)_4 \cdot 6\text{H}_2\text{O}$, a new mineral from fissures in an alkali olivine basalt from Saga Prefecture, Japan, and new data on lokkaite	Kozo Nagashima, Ritsuro Miyawaki, Junko Takase, Izumi Nakai, Kin-ichi Sakurai, Satoshi Matsubara, Akira Kato, and Shoichiro Iwano	1028
Rouseite, a new lead manganese arsenite from Långban, Sweden	Pete J. Dunn, Donald R. Peacor, B. Darko Sturman, and Frederick J. Wicks	1034
Synthesis, crystallographic and spectroscopic data, solubility, and electrokinetic properties of metakahlerite and its Mn analogue	Renaud Vochten, Eddy De Grave, and Jozef Pelsmaekers	1037
Kassite from the Diamond Jo quarry, Magnet Cove, Hot Spring County, Arkansas: The problem of cafetite and kassite	Howard T. Evans, Jr., Edward J. Dworknik, and Charles Milton	1045
Phase transitions in calcic plagioclase: A correction and further discussion	Timothy L. Grove, John M. Ferry, and Frank S. Spear	1049

(Contents continued on outside back cover)

Memorial of Heinz Meixner November 4, 1908–December 19, 1981

FRITZ A. PFAFFL

Pfarrer-Fuerst-Strasse 10, D-8372 Zwiesel, Federal Republic of Germany

Heinz Meixner was born in Graz (Styria, Austria), the son of Dr. Adolf and Bertha Meixner. His father was a zoologist and leader of the zoological department of the government-museum Joanneum in Graz. His mother had studied mineralogy and petrography with Cornelius Doelter in Graz. His grandparents on his father's side came from officer families. His grandparents on his mother's side came from the middle-class. The universe of minerals drew the schoolboy Heinz Meixner into a magic circle. From his teachers for natural history at the higher modern school, the later university professors F. Angel and F. Machatschki, he was introduced to mineralogical science. From 1930 on he studied chemistry and natural history (including mineralogy, geology, zoology, and botany). With the thesis "Das Mineral Lazulith und sein Lagerstätten-typus" he graduated and became doctor of philosophy in the autumn of 1936. His teacher and supervisor was F. Angel. He had studied geology with F. Heritsch and chemistry with A. Skrabal. From 1936 to 1938 he was an assistant at the university at Graz. In summer 1938 Dr. Meixner was an assistant professor and worked with the famous sedimentary petrographer C. W. Correns at the University of Rostock. In 1938 he became a curator at the natural history museum in Vienna, where he also qualified as a university lecturer at the Mineralogical Institute at the University of Vienna. He was appointed professor in 1940. During the Second World War he worked as an army geologist in Norway and was a war prisoner until 1947 when he could return to his native country (to his home) again. He dedicated himself to his studies of mineralogy. In 1948 he found a position as assistant mine-surveyor and mineralogist at the Bergdirektion Hüttenberg der Österreichischen Alpine Montangesellschaft.

His polarizing microscope, a small chemical laboratory, a rich library, and his own vast collection of minerals were his resources at his new home in Knappenberg. There, in the very same year, a special group for mineralogy and geology of the Natural Club for Carinthia was founded, and Dr. Meixner was one of the founders of this institution. He became secretary and publisher of the club newspaper "Der Karinthin"; about 85 numbers were published before his death. The famous mineralogists Paul Niggli, Paul Ramdohr, Hans Schneiderhöhn, and H. G. F. Winkler were welcome guests in his home in Knappenberg. He married in 1954. His wife always accompanied him during his excursions and his visits to congresses, and she helped him with his scientific work. During this time he gave the minerals cobalt cabrerite (1951) and kahlerite (1954) their new names. In 1956 he got his second title as professor



at the present Montan University of Leoben. In 1962 he was awarded the title of "special professor." In 1968 he became professor in ordinary at the University of Salzburg. The newly founded institute for mineralogy and petrography was soon internationally appreciated. Professor Meixner had always been a particular friend of the collectors of minerals in his Austrian home and not only there. The specimens he got he always analyzed with enthusiasm and reported about them regularly in the Kärntner club newspaper "Carinthin." Often he succeeded in identifying a mineral by means of a magnifying glass, because of his extraordinarily rich knowledge of minerals and their qualities. Dr. Meixner published 420 scientific essays. On December 19, 1981, he died of heart failure at Salzburg.

Dr. Meixner had been Fellow of the Mineralogical Society of America since 1953; in 1973 he became an honorary member of the Natural Club for Carinthia; in 1978 he became an honorary member of the Austrian Mineralogical Society; and in 1980 and 1981 he was awarded the same title in the Vereinigung der Freunde der Mineralogie und Geologie (Heidelberg) and in the German Min-

eralogical Society. In 1975 S. Koritnig of the University of Göttingen (Federal Republic of Germany) named a magnesium-aluminium-hydroxide from the serpentine of Ybbs-Persenbeug in the lower parts of Austria after him and called it meixnerite.

I think that we have lost an excellent expert as far as minerals are concerned, who had always been able to fill people and especially young people with enthusiasm for our science, mineralogy. Dr. Meixner was the best expert on mineralogy in Austria.

SELECTED BIBLIOGRAPHY OF H. MEIXNER¹

Neue Mineralfunde in den österreichischen Ostalpen. Mitteilungen des Naturwissenschaftlichen Vereins der Steiermark, 67, 104–115 (1930).

Parasepiolith auf Magnesitlagerstätten vom Typus Veitsch. Tschermarks Mineralogisch-Petrographische Mitteilungen, 43, 182–193 (1932).

Kristallographische Notiz zum Pinoresinol ($C_{19}H_{20}O_6$). Zeitschrift für Kristallographie, 89, 496–498 (1934).

Eine neue Manganparagenese vom Schwarzsee (Kolsberger Alpe) bei Tweng in den Radstätter Tauern (Salzburg). Neues Jahrbuch für Mineralogie, Beilagenband 69, 500–514 (1935).

Eine neue Trachtvariante des Titanits. Zeitschrift für Kristallographie, 97, 332–335 (1937).

(with F. Angel and L. Walter) Über den Lehrausflug zur Kristallinsel von Radegund bei Graz, 26. 8. 1939. Fortschritte der Mineralogie, 23, 48–54 (1939).

(and L. Walter) Kraubather Lagerstättenstudien. Fortschritte der Mineralogie, 23, 81–89 (1939).

(with E. Clar) Die Arsenvererzung in der Stelzing bei Lölling, Saualpe, Kärnten. Berg- und Hüttenmännische Monatshefte, 96, 172–174 (1951).

(with E. Clar) Die Eisenspatlagerstätte von Hüttenberg und ihre Umgebung. Carinthia, 143/63, 67–92 (1953).

Ein neues Euklasvorkommen in den Ostalpen. Tschermarks Mineralogisch-Petrographische Mitteilungen, 6, 246–251 (1957).

Stoffwanderungen bei der Eisenspatmetasomatose des Lagerstättentyps Hüttenberg. Fortschritte der Mineralogie, 38, 152–154 (1960).

Das Vorkommen schöner Topas-Kristalle in den Hohen Tauern Salzburgs. Fortschritte der Mineralogie, 39, 82–83 (1961).

(with E. Clar and O. M. Friedrich) Steirische Lagerstätten. Fortschritte der Mineralogie, 42, 173–183 (1965).

Die Geomineralogie des Strontiums in österreichischen Vorkommen. Joanneum Mineralogisches Mitteilungsblatt, 1/2, 57–65 (1967).

(with W. Fritsch and H. Wieseneder) Zur quantitativen Klassifikation der Kristallinen Schiefer. Neues Jahrbuch für Mineralogie, Monatshefte, 364–376 (1967).

Die mineralogische Sammlung im Mährischen Landesmuseum zu Brünn. Der Karinthin, 59, 56–58 (1968).

(and F. Thiedig) Eine kleine Antimonitlagerstätte bei Brückl, Saualpe, Kärnten, und ihre Minerale. Carinthin, 159/79, 60–67 (1969).

Ein Beitrag zum Hörnesit $Mg_3(AsO_4)_2 \cdot 8H_2O$, in der Vivianitgruppe. Neues Jahrbuch für Mineralogie, Monatshefte, 173–175 (1970).

(with S. Koritnig and P. Mielke) Kutnahorit vom Forsthaus Zinnecker, Lölling, Kärnten. Der Karinthin, 71, 120–124 (1974).

Die Erz- und Minerallagerstätten Salzburgs. Berg- und Hüttenmännische Monatshefte, 119, 503–512 (1974).

Minerale und Lagerstätten im Bereich der Saualpe, Kärnten. Clausthaler Geologische Abhandlungen, Sonderband 1, 199–217, 219–232 (1975).

(with E. Ch. Kirchner) Nickelhexahydrit vom Ochsner-Rotenkopf, Zillertaler Alpen, Tirol. Der Karinthin, 74, 216–218 (1976).

(with P. Becker and G. Tichy) Die Marmore von Adnet und vom Untersberg. Der Karinthin, 77, 330–338 (1977).

Besondere mineralogische Neufunde aus Österreich. Fortschritte der Mineralogie, 56, 1–93 (1978).

(and K. Walenta) Liebigit, ein für Österreich neues Urankarbonatmineral von der Kolnbreinsperre, Maltal, Kärnten. Der Karinthin, 81, 151–153 (1979).

(with W. H. Paar and T. T. Chen) Pb-Bi (Cu)-Sulfosalts in Palaeozoic gneisses and schists from Oberpinzgau, Salzburg province, Austria. Tschermarks Mineralogisch-Petrographische Mitteilungen, 27, 1–16 (1980).

Arsen- und Antimonvererzungen im Bereich der Saualpe, Kärnten. Zeitschrift der Deutschen Geologischen Gesellschaft, 132, 159–166 (1981).

(with E. Clar) Die grundlegenden Beobachtungen zur Entstehung der Eisenspatlagerstätten von Hüttenberg. Carinthia, 179/91, 55–92 (1981).

Die Minerale in den Plattengneis-Steinbrüchen der Rauris, Salzburg. Der Karinthin, 85, 300–303 (1981).

(and W. Paar) New observations on ore formation and weathering of the Kamariza Deposit, Laurion, SE Attica (Greece). Ore genesis—The state of the art, 760–767. Springer, Berlin-Heidelberg (1982).

¹ The complete bibliography of Heinz Meixner has been published by Hans Wieseneder (Carinthia II, 172/92, 7–30, Klagenfurt/Austria, 1982).

Mason NHB 119
SMITHSONIAN INSTITUTION
WASHINGTON, D.C. 20560

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300



Dr. F. A. Pfaffl,
Pf. Fuerst-Str. 10
D-83720 Zmuersel
Federal Republic of Germany.

June 17, 1986.

Dear Dr. Pfaffl,

Thank you for the memorial
for Heinz Meixner. I have edited
it and forwarded it to Dr. Murray
for publication in *The American Mineralogist*

Sincerely yours
Brian Mason