

AUSTRIA, 1965 [working mines]

Cu - Brixlegg

Schwatz - now dolomite only

Pb/Zn - Kreuth; Bleiberg - Grube Rudolf
 ↑
 (Westschacht (?)) Grube Stephanie.

e Rubland.

Bleiberg-Kreuth; Rubland-Kreuth;
Gailitz; Lafatsch in N. Tirol.

Fe - Hüttenberg.

GLEICHENBERG

Austria

[?He, Styria, SE of Graz] J7

BM: Olivine, granular.

INGELSBURG,

Austria.

BM: Ilmenite, tabular xls in calcite.

KLÖCH,

Austria.

BM: Gonnardite (a zeolite) white fibrous radiating, with
phillipsite, in basalt.

KREMS
FELLING, nr. KREMS

Austria.

Dana₆. Andalusite in serpentine.

RUSKITZA,

Austria.

Rutley, 15th Ed., p. 188; Wolfenite.

Dana, Wolfenite

WÖRGETAL, Ötztal area, Austria

MA-81-2539, - A polymetallic mineralis'n,
high T metamorphosed in "Ötztal old-
crystalline rocks" Pyrite, arsenopy, sphal
pyrrhot, fahlerz, cubanite, mackinawite,
galena, gold. Sec'y's → digenite, covellite,
copper, marcasite, hydrated Fe oxides

BURGENLAND

BERNSTEIN, ⁴Burgenland Austria.

[? Id, S of Vienna?]

Bm: Pseudophite, greenish-grey, massive.

Min-Fund. 8 232

Opal

STADT SCHLAINING, Burgenland, Austria

Min-Fund. 8 Stibnite mine, 2 km

N of SCHLAINING. Also cinnabar,
arsenopyr, pyr, marc, cupy, tet'hed,
calcade; Sb ochres incl. stibiconite,
valentinite, senarmontite; tiny
xls sulphur, barite; red crust on
stibnite of kermesite (? cinnabar or
metastibnite). sphal, qtz; vivianite,
small rosettes; ankerite, gyps, sphene,
thuringite? saffronite, idaite, felds, magnet, ilmen

CARINTHIA
KÄRNTEN

BLEIBERG, Carinthia, Austria

MA 5 190 Hydrozincite.

MA 11 403 Rudolf M: Blue-black damp earthy
muck $\rightarrow$ blue stains on th l'st., contains ilseman,
jordis, etc etc [ugh!]. Source of Mo for wulfenite?

MA 11 303 wulfenite, colourless, tabular.

BLEIBERG, Carinthia, Austria

<u>D₇ II,</u>	1084	<u>Wulfenite</u>	422	<u>Anglesite</u>
	1088	<u>Scheelite</u>		
	154	<u>Plumbocalcite</u>		
	179	<u>Smithsonite</u>		
	248	<u>Hydrozincite</u>		
	297	<u>Leadhillite</u>		

BLEIBERG, nr. Villach, Carinthia.

BM: Wulfenite. (Classic loc!). Hemimorphite; Hydrozincite;
smithsonite; calcite, grey, with hydrozincite;

Rutley, 15th Ed; p. 175, smithsonite; p. 176, hemimorphite; p. 182, galena.
p. 185, cerussite; p. 188, wulfenite

Dana, Greenockite; hydrozincite

DOBROWA, Carinthia.

See Yugoslavia.

FROSSNITZ-ALPE, Carinthia.

BM: Bornite, with calcite; Talc, crystals(!)

Mafrei area.
due E of Gr. Venediger
is "Frossnitzer Ochsenalpe"

HIRT, ^{or Hüttenberg} Casinthia, Austria

See also RADENTHEIN

MA II 350. "Ni-cabrerite" - green encrust. on
dolom. in serpentine.

HÜTTENBERG, Carinthia, Austria

See also LÖLLING

MA 7503 Arseniosid, felted mass like
"mtn. leather", assoc. w. scorod, symples,
pittic, pharmacos & tröger, on Lölling.
[Meixner] - The "autunite" which does not fluoresce,
has U, As, H₂O & is opt. diff from all known
U mins.

MA 812: WARTSCHACH, Hüttenb'g: Bindheimite

HÜTTENBERG, Carinthia.

[Ge, NNE of Klagenfurt; nr. Lölling]

BM: Haematite; Calcite, fourlings.

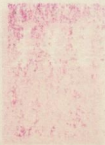
Rayner's Catalogue 1/60 chalybite; opal, var cacholong. (25/-!)

HÜTTENBERG, Carinthia, Austria,
See also LÖLLING, WAITSCHACH

D₇ II 954: Arseniosiderite, ~~with~~ felted masses,
with scorodite, symplectite, pitticite
& pharmacosiderite, on löllingite.

KREUTH "near Bleiberg", Carinth, Austria

MA 11488 Blende, fluoresc diff colours
in zones!



LAMPRECHTSBERG, Carinthia.

Dana,

Zoisite

LÖLLING, nr Hüttenberg, Carinthia, Austria.

D₇ II, 554 ~~Scorodite~~ Linarite
766 Scorodite

"
LÖLLING, Carinthia.

BM: Fibrous löllingite; aragonite.

MIES, Carinthia.

Dana 6. Anglesite.

NOW = MEZIČA, YUGOSLAVIA

Eisenkappel
OBIR, A Carinthia, Austria

D₇ II 814 Descloizite.

897 Vanadinite, Obir, nr. Eisenkappel, Carinthia.

BM Descloizite, pink xline crust (v.v. like
that "from Eng Vein, A. Edge"), on quartz

RADENTHEIN, Carinthia, Austria.

See also HIRT.

MA 312: From magnesite ore on the Millstätter
Alpe, "Cobalt-cabrerite" $[(Co, Mg)_3 As \dots]$, red scales
on magnesite, w. assoc. cobaltite

RAIBEL, "Carinthia." = CAVE del PREDIL, Italy

Rutley, 15th Ed., p. 175, Smithsonite ("calamine"); p. 176,
Hemimorphite; Willemite.

MA 1294, 5 190 Hydrozincite.

MA 10 495 Now = "Cave del Predil", Italy. Pb/Zn
mines, 20 km SW of Bleiberg.

Sphal, galena, pyrite, marcas, hydrozinc,
wulfenite, "branchite" (MA 4 341) "etc"

REICHENAU, Upper Carinthia.

Cinnabar; Dana,

RUDNIK, Carinthia, Austria.

[NB: "Rudnik" is "Yugoslavian" for "mine"]

D. App III, 86. Wulfenite xls.

1

SAU-ALPE, Carinthia.

BM: Zoisite.

Rutley, 15th Ed., p. 143. Kyanite. ; p. 153, Rutile.

Dana 6: Epidote

SCHNEESTELLKOPF, Carinthia, Austria

One in Kreuzeck Gr., SW of Polinik Mt., S of Flattach; at
 $13^{\circ} 9' E$, $46^{\circ} 53' N$. (NW corner of Map 22 [Freytag-Berndt])

Spec ex R. Harker (12/74). Andalusite,

excellent translucent crystals
in schist

SCHWARZENBACH, Carinthia

See also WINDSCH-KAPPEL. of TÜRNETZ, Lower Austria.

Dana 6: Anglesite; wulfenite.

= CRNA, Yugoslavia

WAITSCHACH, Hüttenberg, Carinthia, Austria.

D₇II, 1019 Bindheimite, with altered kournovite.

WALDENSTEIN, Carinthia, Austria.

MA 8 104 Scapolite, in marble.

WINDISCH-KAPPEL, Carinthia.

Rutley, 15th Ed., p. 188, wulfenite. — "Schwartzzenbach, at
Windsch-Kappel, in Carinthia" [cf TÜRNTZ, Lower Austria]

LOWER AUSTRIA

GLOGGNITZ, Lower Austria.

BM: Magnesite, MgCO_3 , white, radiating.

TÜRNITZ, Lower Austria

MA 3 156 At Schwarzenberg -
anglesite.

SALZBURG



PINZGAU

BÖCKSTEIN, Salzburg.

[Fd, E of gr. Glockner]

BM: Molybdenite; radiating scales on calcite.

Haus der Natur, Salzbg:

KREUZ KOEGL, Böckstein [K is SW of B]

vg aquamarine in quartz lens in
biotite-schist

FELBERTAL, Pinzgau. Salzburg

B 5

Dana 6. Sphene

GOLLING, Salzburg.

[? Fd, S of Hallein] ~~on Golling Mtn, in S of G. Glockner??~~

BM: Sapphire-Quartz, blue vein (massive?) in hornblende.

Haus der Natur, Salzburg.
blue quartz crystal

GRUBACH, Golling,

Min-Fund. 1. 66. GRUBACH. Qtz coloured
blue by crocidolite; haem; siderite;
dolom; jadeite; aegirine; anhydrite; talc;
gyps; ~~siderite~~ occas. millerite.

GROSS GLOCKNER, ^{Salzburg}~~Typol.~~

E8

Dana, "On the GAMSGRUBE, grossglockner": Euclase; pericline;
rutile; quartz; on mica schist.

MÖLLTHAL, g.g. Euclase with pericline

HABACHTAL, Pinzgau, Tyrol, Salzburg

R 4

Classic loc for Emerald.

BM. vg Emerald in biotite-schist; Datolite, vg, clear, also a cut specimen. (green fluorite - "Pinzgau")

Rayner's Catalogue 1/60, Adularia on laumontite; sphene, with calcite and with chlorite. Prehnite (lot)

Dana₆ Epidote.

W. Paar. Friedrichite, new mineral
small bits in qtz - sedl, screens, (below
Emerald mine).

L. Fruth I (1975) 108 ~~108~~ - 115.

Thüringer Hütte (Schwartzkopf-Sch.) e Neue
Prager Hütte :- Datolite (several cm!), Prehnite
(~ 1 cm xls); axinite on albite; qtz, calcite;
v.g. sphene etc

Prehnitinsel :- v.g. prehnite, thick crust of 1 cm xls.
Stilbite, heulandite, adularia, pericline,
good smoky qtz e rock H.

Teufelsmühle Kesselkar. v.g. green sphene;
rock xl; smoky qtz; adularia, pericline, rutile,
chlorite. Apatite xls. Tourmaline
needles often decorate the specimens. V. rarely,
bright blue beryl

Leobachrinne :- Emerald, beryl in brötlite e talc schist.
"Strahlstein", breunnerite e pyrite in talc. Rarely
phosphite, scheelite

See also Halex,

HALLEIN, Salzburg.

BM. Anhydrite, large tabular xl.

RSWB coll. Brown massive Halite.

HALLSTADT, Salzburg Austria.

BM: glauberite ($\text{Na}_2\text{Ca}(\text{SO}_4)_2$), red, massive.

HOLLERSBACHTAL, Pinzgau, ^{Salzburg} Tyrol.

B 6

BM: Grossular, var Hessonite, with clinochlore. (Green fluorite-
"Pinzgau")

Dana₆ "Hollersbach": Epidote

Haus der Natur, Salzbg:- SCHARN — Epidote

["]
HÖLLGRABEN, Salzburg Austria.
Near Werfen.

BM: Wagnerite, $Mg_2 PO_4 F$ ~~with~~ with quartz.

Dana₆ Valley of Höllengraben, nr Werfen, Salzbg. Wagnerite in
irregular quartz veins traversing clay slate.

Haus der Natur, Salzbg. Vrg wagnerite

ISCHL, ? Salzburg Austria.

? = Bad Ischl

BM: Löweite, $\text{Na}_2\text{Mg}(\text{SO}_4)_2 \cdot 2\frac{1}{2}\text{H}_2\text{O}$, orange, massive, with
halite. Polyhalite $\text{K}_2\text{MgCa}_2(\text{SO}_4)_4 \cdot 2\text{H}_2\text{O}$, orange,
coralline,

KRIMMLER-ACHENTAL nr. Krimml, ^{Salzberg} Tyrol. 7 E |
KRIMML, KRIMMLERTAL

Dana₆: well crystallised epidote. - Krimmler-Achental.

Krimml: Albite

Krimmler Tal: Scheelite.

Haus der Natur, Salzbg.:- WARNSDORFER HÜTTE,
(head of valley) vq rutile; adularia.

SÖLNKAR :- vvg scheelite !!; epidote, augite,
adularia, staurolite

LEOGANG, Salzburg.

See also SAALFELDEN

BM: Celestite, blue needles on limestone.

Dana 6 1032, Covellite with chalcopyrite; aragonite;
witherite; strontianite.

Haus der Natur, Salzbg: ERASMUSSTOLLEN
Leogang - vg celestine, aragonite, baryte

Univ. Salz. Inst. Min. Mus. Cinnabar xls on dol. eqk - from.
Vogelhalke. From ERASMUSGRUBE,
Schwartzleo, blue celestine xls; strontianite xls.

See LEOGANG booklets.

MITTERBERG, St Johann, Salzburg, Austria

SW Cat. Gersdorffite, rich grey cleavable,
with chalcopy. & qtz.

W Paar. gold with uraninite.

WHP → RSWB Arsenopyrite v. g. xls

OBERSULZBACHTHAL, Pinzgau, ^{Salzberg} Tyrol.

B 2

Dana Diopside.

Haus der Natur, Salzbg:
sphene, augite.

SEEBACH: epidote,

RAURIS, Salzburg Austria.

[Ed, NE of Grossglockner?]

BM: Calcite, twinned rhombohedra. Euclase, with albite and quartz, on mica-schist; Ripidolite, greenish, chloritelike.

Dana₆ Zoisite

JRK: Vg Rutile; sphene at head of tal, near
Kölmsaigurn

Min Rec (1982) 13 [3] 171-3

PTO

Haus der Natur, Salzbg: KRUMELBACH;

HOCHKASERKAR:- Vg green sphene.

LEISTRIEDL:- Vg rutile

RAINBERG, Salzburg, Austria.

Univ. Salz. Inst. Min. Mus. Lazulite, 13 mm

"Korn" in conglomerate - Rainberg, Salzburg

[Rainberg is the hill ~ 1 km W
of the Festung, in the city]

Refs H Mx

also "St Peter" book.

SAAWFELDEN ^{Salzburg} ~~Leogang~~ / Austria.

[?Ed N of Zell am See?] See also ~~LEOGANG~~

BM: vs Aragonite.

SCHNELLGADEN, Salzburg, Austria

MA 7316 In mud in old workings of the
old Schnellgaden Au mines, Salzburg, are
clear glistening xls of phosphorösslerite,
clear, yellow-stained - $\text{MgHPO}_4 \cdot 7\text{H}_2\text{O}$

STUBACHTAL, Pinzgau, ~~Nieder~~ Salzburg

E 7

BM: Olivine, big stepped xls with calcite & serpentine. Actinolite, finely fibrous, radiating. vg pale green talc, on chlorite schist; Clinocllore, vg xls on calcite; Prehnite vg xls with zoisite, Apatite vg yellow, with vg magnetite, big rhombododecahedra, in chrysotile, also giant almost colourless xls (apatite) in chlorite schist. (green Fluorite - "Pinzgau")

Doblicka, "Tirols Mineral", Wien (1852): Sphene ("Stubaital").

TAMSWEG, Salzburg

[Fd. E of Gr. Glockner, S of Gr. Gelling Mtn.]

BM: Arsenopyrite v. xls, bright, in sericite-schist.

UNTERSULZBACHTAL, Pinzgau, ^{Salzberg} Tyrol. E3

Has old Cu mine - Tourist map
BM: (green floor), "Pinzgau".

~~Pinzgau~~

KNAPPENWAND.

GM: Sphene.

Classic Epidote loc. with apatite.

L Fruth (1975) I Epid; "byssolite", apatite,
qz; calcite; albite. Rarely: sphene, scheelite

Dana 6: Epidote schist with asbestos; adularia; fine xls. apatite;
scheelite; sphene.

L Fruth (1975) I : 116-119. · Big blue beryl (aquamarine)
in qtz or in smoky qtz. Rock xl. Sphene;
tourmaline, pericline, adularia, apatite,
nice small, "eisenrosen" haematite, anatase,
brookite; rutile.

WEBING RIGAU, Satzb'g, Aust

Haus der Natur. Sampleite-

"Gipsbergbau Webing Rigau" ~~W~~

E Kirschner. Sampleite, thin
coatings; thin chess xls wagnerite

HMX

WEITENAU, Salzburg, Austria.

Haus der Natur, Salzbg: Amber
in matrix.

WERFEN, Salzburg. Austria. (I)

[~~See~~ s. of Salzburg]
See also HÖLLGRABEN.

BM: Lazulite, vg light blue, (also W. Spencer)

Dana: Lazulite, massive exlised with siderite, in narrow veins
in torrent. beds of Schladming and Rädelgraben.

See also Höllgraben

[Visit Briefträger in Pfarrwerfen
& Frz Lechner in Bischofshofen]

Haus der Natur; Salzburg:- Best lazulite (1976),
from IMLAU, FÄRBERGRABEN. SCLAMINGGRABEN
HÖLLGRABEN - wagnerite

MA 3 309 Trias slates w. irreg veins with quartz,
breunnerite, haematite, chlorite, lazulite,
wagnerite, etc.

MA 8 380 The lazulite & wagnerite loc. is at
HÖLLGRABEN; also large clear xls dolomite
with gypsum & fluorite in veins.

Min-Fund 1 62 HÖLLGRABEN: Wag; quartz;
lazul incl xls; breunn; gyps + mostly red;
dolomite sometimes glass clear to 6 cm!!
64 FÄRBERGRABEN: Wag-xls; lazul-seldom
xls; breunn; qtz; gyps; haem; Cu py.

WERFEN, Salzburg, Austria (II).

Un. of Salz. Inst. Min Mus:

Lazulite: ~~IMLALL~~; RÄDELGRABEN (near
Hüttau). RAINBERG, Salzburg (13 mm

"Korn" in conglom [~~is~~ this near Werfen
or not? ~~?~~ → NO - is in the city 1 km W of
the fortress]

Wagnerite: HÖLLGRABEN

STYRIA

STEIERMARK

ADMONT

Styria, Austria

MA 81-1866

Admontite

$2\text{MgO} \cdot 6\text{B}_2\text{O}_3 \cdot 15\text{H}_2\text{O}$

new min. from gypsum deposit of

Schildmauer nr Admont, Styria,

ass. w. 3 other new B minerals & with

gyps; anhyd; hexahydrate; löweite, qtz,
pyrite.

AUSSEE, Styria Austria.

BM: Blödite $\text{Na}_2\text{Mg}(\text{SO}_4)_2 \cdot 4\text{H}_2\text{O}$ xls, enclosing polyhalite.

EIBISWALD, Styria.

Dang 6. Zoisite.

~~ERZBERG~~ EISENERZ, Styria, Austria

MA 8 94. Aragonite xls, at Erzberg.

MA 287 Erzberg, nr. Eisenerz: Siderite,
anker, limon, haem, arag (xls & "flos-f")
Schwarzite, cinnabar, "etc".

EISENERZ, Styria, Austria,

~~[$\frac{1}{2}$ Gd, Styria, m Erz B, NW of Bruck $\frac{1}{2}$]~~

BM: Ankerite; Aragonite, var Flos-ferri. (Classic loc. - Spencers Book)

FREIENSTEIN, Styria.

BM: Allophane, var schrötterite, massive & botryoidal.

GLEINALP

Styria, Austria

MA I 330 Tourmaline & rutile, large
x/s from granite peg.

GRAZ

Styria.

MA 5 288 At several places near St. Radegund
near Graz, beryl in pegs traversing
gneiss. One nest spodumene found.

Map NNE of Graz

KNITTELFELD, Styria, Austria.

[? Gd, Styria, SW of Brock, NW of Grätz]

BM: Opal, var forcherite, yellow.

KORALP, Styria, Austria.

MAI 344 At Koralp & Stubalp, Styria -

in crevices in pegm: autun, minute scales;
a U sulphate, & pale greenish U-iferous
hyalite, all v. fluoresc.

KRAUBATH, Styria.

Atlas: Gd. WSW q Bruck

GM: Bronzite.

GM: "Enstatite, var Bronzite"

KRIEGLACH, Styria Austria,

~~[?hd in Mürztal, NE of Bruck, Styria?]~~

BM: Lazulite; light blue, with moscovite & quartz.

LAMMING, E. Styria, Austria.
(NW of LEOBEN; NW of BRUCK)

MA 10 571 OBERDORF, Lamming. Spathic
magnesite, with Sr mins in cavs, also dolom
pyrit, qtz. Celestine- small yellow-grey xls.
Strontianite- brown-red nodules, also good
xls to 5cm, of quartz-like, prismatic, & tabular
habits. Paragenes. of Leogang, Salzbg.

MODRIACH, Styria. Austria.

BM: Rutile prism.

NEUBERG, Styria

[Hd, NE of Bruck]

BM: Pyrite, rounded octahedron.

^{Lammung}
OBERDORF, Styria. Austria.

~~See also LAMMING~~

BM: Strontianite, prisms on dolomite.

Rayner's Catalogue 1/60. dolomite, "magnesite mine, Oberdorf, styria."

OBERZEIRING, Styria, Austria

On Trieben $\rightarrow$ Judenberg Rd; $\approx$ 10 ml NW of Judenberg (Graz area).

D₂ II Bindheimite, as an ocherous alt. of
1019 bourbonite

MA 3 156 Linarite, calcedonite.

SCHWANBERG, Styria, Austria.

MA 8 104. Dumontierite, specks
in scapolite

TRIEBEN, Styria, Austria.

MA1330. At SUNK near Trieben [on main road
Liezen $\rightarrow$ Leoben [$\frac{1}{2}$ way between Graz & Salzburg]. Pale
brown, transp. apatite xls in dolom.
veins in a magnesite g'y ~~at~~ Sunk.
A pure F-apatite.

VORAU, Styria, Austria

MA 1330: From KALTENEGG, nr. Vorau, —
ceruss. with pyrom. on mica-schist

ZINKWAND, Schladminger Tauern, Styria,
Austria.

MA 81-2540 W. Parar & T. T. Chen. Ni-Co-Bi-Ag
deposit with gersdorffite, niccolite,
parammelsbergite, bismuth, bismuthinite
& the rare parkerite [$\text{Ni}_3(\text{Pb,Bi})_2\text{S}_2$, bronze]

TYROL

TIROL



PFITSCH area

ZILLERTAL

SCHWAZ-BRIXLEGG area.

ALPBACH TAL, Tyrol.

S 17

near Brixlegg.

R.v. Klebelsberg. ^{and} "Geol von Tirol" (1935):

sphene, var. leucoxene. Ilmenite; magnetite; rutile;

BIEBERWIER, Tyrol, Austria.

D₇ II, 551 NW of Innsbruck: Lanarkite, BIBERWEIER

MA I 296 Minium, thin nodular crust on galena
- BIBERWIER

BRIXLEGG, Tyrol. & RATTENBERG.

S3

See also Schwarz, Falkenstein, etc Mauk. Ötz, Rechter Kg, Thierberg
Gratloppitz, Kogl

BM: Tetrahedrite, var Schwarzite, grey modified dodecahedron,
coated with calcite, with barite & quartz. Enargite,
 Cu_3AsS_4 , dark grey, with pyrite.

Dana₆: Albite

KÖGEL nr Brixlegg: Dana₆: Tetrahedrite

~~Kögelberg~~: Tile ore. (Liebener) Malachite (Kogelbergbau)

GROSS KÖGEL nr Brixlegg: Dana₆: Calciostrontianite.

v. Klebelsberg: "Geol von Tirol" (1935). Specifically Brixlegg: Pyrrargyrite & enargite (at Matzenkopf bei Brixlegg); native silver; "Kobaltkies" [Linnaeite?]; asbolite; erythrite; "Kobaltnickelkies" [Siegenite] (last 5 only at Brixlegg).
"An der Hohen Salve: Zinnabar (Grube Traholz nördlich Brixen)."

L. Liebenow, "Die Mineralien Tirols" (1852). Allophane (Thierberg, Bergbau bei Brixlegg); erythrite (am Geyerbergbau auf den Halden ["declivities" !]) "vsmall xls"; malachite (am Kogelbergbau); titanite ore (Kogel & Thierberg, "Rattenberg").
Cuprite & titanite ore at Maukner-Ezze-Bergbau, Rattenberg.
aragonite, at Geyer & in the Maukner-Ezze (als Idolite).

BRUNNALPE, Spertental, Tirol.

Univ. Salz Inst. Min. Mus. Azurite with
malachite, Brunnalpe in Spertental,
Tirol [where?]

GASTEIN

Tyrol.

Thomas & McAlister, p. 154. "In E-^{ast} Tyrol ... narrow qtz veins or strings traverse gneisses & schists & contain gold; common sulphides; stibnite; molybdenite; rich ores of Ag. Pyrite is commonest sulphide. In addit, some loes show presence of calcite & fluor spar, also zeolites.

GEYER (Bergbaue) Brixlegg Tyrol.

S 15

Brixlegg⁹ on ⁺ way between Brixlegg & Alpbach.

L. Liebener "Die Mineralien Tyrols" (1852): Erythrite; aragonite

^{R.}
GRANATKOGEL, Tyrol.

Rayner's Catalogue 1/60 Almandine in schist.

Probably = GRANATKOGEL, ZILLERTAL

GRATLSPITZ, Brixlegg, Tirol, Austria.

Min Abs 89M/2654 (Hermann, Lapis 1988, 13(12), 31-4)
Olivénite & strashimirite.

RExel, Die Mineralien Tirols 2 (1982)¹³⁰⁻¹. Here is
Bergbau THIERBERG. Sb, As-tetrahedrite
& "schwarzite", chalcopy; arsenopy; enargite;
cobaltite; bornite; malachite - stained
quartz matrix, ~~with~~ or in dolomite, with
azurite, erythrite, tirolite, olivénite,
"mineral x" [Sep. 40. Small blue-green splenules $\rightarrow 0.5\text{mm}$ with
tyrolite]

PSJOB "Gratlsitz" is the mountain peak
above the "Holzalpe" hut. The Bergbau
"Thierberg" is the old silver & copper mine

on its E flank. Dumps/scree
occupy a declivity on its E
flank from the bottom to near
the summit! Upper dumps examined.
Matrix white with quartz, some
dolomite. Much green staining
Malachite, traces azurite, excellent
tyrolite not uncommon (some alt →
chrysocolla). A grey sulphide e-probed
by R. Patrick = tetrahed-tennantite. This
seems to be the "Brixlegg" or "Holzalpe"
locality of W. Burgstaller's specimens
[eg 72-328].

~~also known,~~
MALL-im-Tyrol.

Austria

Gibson Austria, p 232 (1953). Salt mines - still working nearby

BM. Halite cubes with VG-BFF gypsum; Dolomite, black brilliant
xls.

Kutley, 15th Ed., p. 168, Realgar!

Dana 6 Orpiment, in Gypsum.

HOLZALPE, Braxlegg, Tirol

Sae GRATLSPIITZ

KITZBÜHEL, Tyrol

Gibbon "Austria" p. 222.

Copper, it is believed, was mined in the district as early as 1000 BC. In 1540 AD, silver mines were discovered & a boom resulted. One shaft was sunk to 3,150 feet - impressive, even today.

KOGEL, Brixlegg, Tirol, Austria.

MA 6 92 Valentinite xls.

D 6. Tetrahedrite.

Liebener Tellurite, Malachite

D 6 Calciostromantite - GROSS KÖGEL

LISENS ALP, Tyrol

G. Mus: Andalusite.

BM: Chiastolite (var of andalusite) (Classic loc LJS pener)

Rutley, 15th Ed., p. 135. Spodumene.

Dana Large xls andalusite; with kyanite; spodumene.

Doblicka ~~Hager~~ "Tirols Mineral" (1852) p 55: sphene ("Lizenzen")

MAUKNER ÖTZ, Brixlegg, Tyrol S12

v. Klebelsberg, Geol von Tirol (1935): In Schwatz Dolomite: Wolfenite,
cervussite; Zn niccolite

L. Liebener, "Die Mineralien Tirols" (1852): "Maukner ~~Ez~~ze": Aragonite var
Igloite; "Mauknerezze Bergbau": Cuprite, tile ore.

Exel "Die Min. Tirols" 149
Fig 8, p 150, Loc 14

Brixlegg-Rattenberg

NASSEREITH, Tyrol, Austria:
S of BIBERWEIR, (W of Innsbruck)

MA II 303. Dirstentritt M: wulfenite,
1cm needles on l'stone.

PASSEYR, Tyrol

Dana₆ Zoisite.

PFITSCH-JÖCH, Tyrol.

P 1

(PASSO DI VIZZE)

G.M. Kyanite, blue, & var. rhaetizite, almost white. ("Pfitsch")

Rayner's Catalogue 1/60 "Pfitsch": Apatite with adularia.

Dana₆: Beryl; ^{see "grauwand"} zircon; zoisite; sphene; apatite; anatase; albite;

Doblicka, "Tirols Mineral", Wien (1852). ("Pfitsch"); Sphene
("Pfitsch-grunde anden Rothen Wänden") - zircon.

L. Liebmayer Die Mineralien Tyrols (1852): Apatite (Rotbachl; Pf-jöchel; Lovitzer Alpe); epidote (Pf-jöchel); Kyanite (Pf-jöchel).
rutile (Pf-jöchl & Pf-grund).

R. v. Klebelsberg, "Geol von Tirol" (1935). Rich loc: "Pfitsch-joch"
(for mineral list see "Zillertal" 2122)

LOVITZER ALPE, Pfitsch, Tyrol.

P3

~~(2! 1 in Austria just N of Pf-Joch; one in Italy SE of Pf-J.)~~

Liebener (1852): Apatite;

v Khebelberg (1935) Rich loc: "Lowitzer Alpe" (See Zillertal
Z 1, 2 for minerals)

FURTSCHLAG, Pfitsch, Tyrol.

In Schlegeistal - base for greiner. locs (q.v.) → Actinol
talc
Magnet.

Lieberer, (1852); Kyanite; sphene;

Franz G Ackermann D & Koch E Am Min 66 872-7 (1981)

Karlite $Mg_7(BO_3)_3(OH, Cl)_5$ new mineral, white
to light green needles to silky fibres usually
0.5 mm long but up to ~1 cm, weathers to
brown crust, in aggrs → rosettes, looks like
hemol-actinol, with ludwigite needles to
5 cm, brown, rhombic x-section; calcite; dolomite;
chlorite; clinohumite; brucite; in a
small calcsilicate marble lens 1 metre
thick, several metres long, 400 m SE of

Furtschaglhaus (Schegeistal, Zillertal Alps)
near path to Gr. Mösele. The lens is
in amphibolite in border zone betw
the "Zentralgneis" & the "Schieferhülle".

HÖRPINGER GRUND, ?Pfitsch, Tyrol. P8

Liebener (1852): Kyanite; sphene (Hörpinger Thale)

KALTENSEE, Pfitsch.

P 10

Liebener (1852): Sphene.

KRAXENTRAGER, Pfitsch-Joch, Tyrol, Aust~~ria~~
/ Italy

(W of Pf-J^h)

v. Klebelsberg (1935). Aquamarine

GRAUWAND, Pfitsch-Joch, Tyrol. Austria/Italy

(W89 Pf-J $\frac{1}{2}$)

v. Klebelsberg, (1935). Beryl.

ROTBACHL, Pfitsch, Tyrol, Austria/It. P 4

Liebener (1852): Apatite; kyanite, var rhaetizite; rutile;

v. Khehelsberg (1935): Rich loc; (see "Zillertal" 21, 2 for mineral list).

PREGATTEN, Carinthia & Tyrol.

[?? Ed? SA Venediger "Pregraten"]

BM: Chloritoid, with dolomite.

Dana, ~~8~~ Pregraten, Tyrol. Zoisite.

Oxford Mus. Spec: Prägraten: Kleinitz: Fuchsite; Zoisite; Kyanite

Gosterwand: pink clinozoisite

Eichamwand: Serpentine

Sulzegg, Dörfertal: vg green asbestos

Doblicka "Tirol's Mineral" (1852): Sphene.

REITHER KOGEL, Brixlegg, Tyrol

S 14

= KOGEL = ~~GROSS~~ KOGEL. (S3)

On Map. S. of Brixlegg.

R. v. Kleeberg "Geol. von Tirol" (1935): In Schwarz Dolomite: Strontianite;
cinnabar.

INNSBRUCK MUS: v.g. Blue aragonite (Kogel); Azurite; tyrolite; calcio-^{aragonite}~~stront-~~
"Fahlerz"

SCHMIRNTAL, Steinach. Tyrol Austria

P 18

GM: Albite.

Oxford Mus: Albite.

SCHNEEBERG, Tyrol.

Dana₆: Schneebergite (var. of atopite $\text{Ca}_2\text{Sb}_2\text{O}_7$) cubic, in
0.5-1 mm octahedra. Honey yellow, adamantine H, 6.5; 6, 4.1.
occurs near union of anhydrite or gypsum with
chalcopryite & magnetite.

PLETZER TAL

Tyrol

S 16

v Klebelsberg "Geol von Tirol" (1935). In Schwarz Dolomite: Wulfenite;
cerussite; pyromorphite;

(^{cf} MAUKNER ÖTZ?) Pletzer Tal-wulf; ceruss; niccolite

? = Pletzer Gr. E of Kitzbühel

Exel "Die Min. Tirols" [27] PLATZER TAL 141

Ötz-Stubaier
region

see also Brixlegg, Falkenstein etc.

SCHWAZ, Unterinntal, Tyrol.

1

51

Sigismund "The Wealthy" ~~the 15th~~ (15th Cent) named so because of discovery of silver mines at Schwarz. Tyrol became known as "Silverland". Many coins of Henry VII, VIII & Eliz I minted in London from Tyrolean silver. (page 201, Gibbon, M. "Austria" [1953]).
Gibbon, p-228-~~229~~

Prosperity of Schwaz, Jenbach & Rattenberg was linked with mining.
p 230: Schwatz once enriched by silver and copper mines in the Falkenstein

Dana, 6

Tyrolite; mercurial tetrahedrite; massive malachite

BM: Aragonite, v. blue needles on dolomite; also yellow stalactitic & botryoidal. Erythrite, red xls, with tyrolite

Lutley, 15th Ed., p 214, Chrysocolla.

Reyner's Catalogue 1/60 "Folgenschein" ^{"Schwartz" (sic!)} ~~Schwartz~~ (= Falkenstein?) Limonite (6/1)

v. Klebelsberg. ^{p124.} Geol. von Tirol (1935). In Schwartz Dolomite: Allophane; chrysocolla; azurite; chalcantinite [Cu vitriol] (only Falkenstein); malachite; kupferschwarze [Hey. tenorite or lampadite]; tyrolite; cuprite; tileore; ? chalcocite; rhodochrosite; galena; wulfenite and cerussite (these two at Maukner Ötz, Pletzer Tal); pyromorphite (Pletzer Tal); stibnite; pyrargyrite & enargite (at Matzenkopf bei Brixlegg); proustite; arsenopyrite; realgar (only Falkenstein); orpiment (Falkenstein, Ringenwechsel); haematite; stilpnosiderite [var. of limonite] (Pletzer Tal); celestite (Falkenstein, Ringenwechsel); strontianite (Falkenstein, Reither Kogel); native silver; kobaltkies [Linnaeite?]; asbolite; erythrite; Co-Ni-kies [Siegenite] (last 5 only in Brixlegg); niccolite (Maukner Ötz); cinnabar (Reither Kogel); aragonite var lgloite; barite; fluorite; calcite; limonite; chalybite.

p122, In the Wildschönauer Schiefer esp. in the ore-beds: Azurite; chalcophyllite; cuprite (only in the Bertha Zeche (Zeche = mine)); galena; boironite (only in Zeche Zapfenschuh); pyrargyrite; argentite; pyrite; Flas-ferrit; "kobaltkies" [Linnaeite?] (Alte Zeche, Zapfenschuh); Erythrite (Bertha-Zeche); niccolite (Alte Zeche, Zapfenschuh); barite.

SCHWAZ (Continued).

2

S2

L. Liebener "Die Mineralien Tyrols" (1852): Aragonite, var. Igloitz at Falkenstein & Ringenwechsel, and var. Flos ferri at Schwazer & Schwaderer Eisenstein.
Epidote - am Moserstein.

Malachite - am Falkenstein & Ringenwechsel.

Realgar As - "Bergbau am Falkenstein im Heiligkreuz-Stollen"
with orpiment at Kranebitter-Klamm, Innsbruck.

↓
(Just W of Innsbruck)

SCHWADER EISENSTEIN, Schwarz, Tyrol 55

On map 5 Km E of Schwarz.

L. Liebener, "Die Mineralien Tyrols" (1852), Aragonite, var Flos ferri.

SCHWAZER EISENSTEIN, Schwatz, Tyrol Sb

L. Liebknecht "Die Mineralien Tyrols" (1852), Aragonite, var Flos ferri.

RINGENWECHSEL, Schwarz, Tyrol

S7

vt Kleibelsberg: "Geol. von Tirol" (1935). In Schwarz Dolomite: Orpiment;
celestite;

L. Liebenauer: "Die Mineralien Tyrols" (1852). Malachite; aragonite var. l. globite

Zeche ZAPFENSCHUM, Schwaz, Tirol

S8

R. v. Liekeberg "geol. von Tirol" (1935). In Wildschonauer Schiefern:
Bournonite; "kobaltkies" [?Linnæite]; niccolite.

BERTHA-Zeche, Schwaz, Tyrol

S9

R. Klebelsberg "Geol. von Tirol" (1935). cuprite; erythrite. (both in
the Wildschönauer Schiefer)

ALTE-ZECHE, Schwaz, Tyrol S10

R. v. Klebelsberg "Geol. von Tirol" (1935): In Wildschönauer Schiefer:
Niccolite; "Kobaltkies" [Linnaeite?].

MOSEERSTEIN, Schwarz, Tyrol.

S 11

L. Liebener "Die Mineralien Tyrols" (1852): Epidote.

FALKENSTEIN, Tyrol. Eastern Schwartz? S 4

See also Schwartz, Brixlegg, etc [Is a largeⁿ area]

BM: Azurite, glob. aggs. on malachite and dolomite; Malachite, nodular, on limestone.

Rutley, 15th Ed.; p. 214, chrysocolla.

Dana. Tyrolite.

Rayner's Catalogue 1/60 "Folgenstein, Schwartz" (sic!). Limonite (61-!!)

R v Klebelsberg. "Geol von Tirol" (1935). Specifically "Falkenstein": Realgar; orpiment; strontianite; celestite; "Cu vitriol" (chalcocite?);

L. Liebenow, "Die Mineralien Tirols" (1852): Aragonite (Iglöite); Malachite;
Realgar xls;

SEBER ALP, Tyrol.

GM: Almandine, in mica schist.

THIERBERG, Brixlegg, Tyrol.

S 13

L. Liebenow, "Die Mineralien Tyrols" (1852): Allophane; Cuprite var.
tile ore.

THIERBERG M., Brixlegg Tirol

see gratlspitz

VIRGEN, Tyrol.

[Ed, S of Venediger]

Bm: Brookite, tabular xl.

ZILLERTALER BERGHÜTTEN



Olperer Hütte



Zittauer Hütte



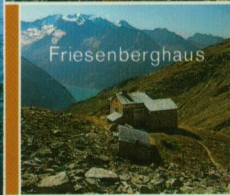
Plauener Hütte



Furtschagihaus



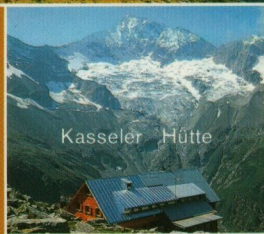
Greizerhütte



Friesenberghaus



Berliner Hütte



Kasseler Hütte



Berghütten im Zillertal

Dear Richard & Sheila

2/9/99



Greeting from our short trip
to Austria & Germany. The scenery
is fantastic and houses, mountains
& flowers are beautiful.
The weather has been fairly good.
Also good company and we
feel relaxed.
The time has gone too fast
and tomorrow we are on
the way homeward
With best wishes & love
John

Ps you were right about
Austria!

Dr. & Mrs R. Braithwaite

'Hagensdorf'

90 Moss Lane

Salz

Cheshire

England.

Schreiben Sie nicht unter dieser Zeile - Do not write below this line - Ne pas écrire en dessous de cette ligne - Non scrivere sotto questa linea.

ZILLERTAL, Tyrol

11

Z 1

See also Schwarzenstein, Greiner, Rot... Kopf.

G.M: Diopside, striated, (a bit like green tourmaline), var Prothweite.
Albite, xls on gneiss

BM: Magnetite, twin in chlorite schist; Magnesite, $MgCO_3$, var. brevinnerite, brown large rhombs in chlorite schist; Sphene; almandine; clinozoisite, red brown xls on garnet-diopside rock; Actinolite (vg) - talc - schist; Hornblende, curved almost black needles in talc schist; Tourmaline, large black xls in talc schist;

Rayner's Catalogue 1/60 Almandine, Diopside
P. 10.

Dana 6. Actinolite (esp. at Greiner, in schists); Idocrase; Chlorite;
Kyanite & diaspore (Greiner); epidote; sphene (Schwartzenstein
& Rottenkopf); Dropside & brookite (Schwartzenstein); Magnetite &
best ~~black~~ muscovite (Rottenkopf); apatite; adularia;
beryl; black tourmaline.

Dr. Klebelsberg "Geol. von Tirol" (1935), p. 218. Anatase in Floite & at
Taxacher Alpe in Stillupp; Laumontite (Floite); Harmotome (Hasenkar
in Sondergrund).

Floite, Baumgartenalpe (Sonntagsklamm, Mörchen, Griesfeld, Gigelitz) & Stillupp (Taxacher Alpe).
Zeolites, eg Natrolite, apophyllite, laumontite, desmine.

p. 219 Rich locs are: Greiner-Hang; Talgggenköpfe; Roter Kopf; Schwartzenstein
alpe. From these [also + Ritsch Joch] are known: Quartz;
amethyst; smoky qtz; aventurine; adularia; calcite; dolomite;
(morion)

ZILLERTAL (Cont'd) [2]

22

magnesite; celestite; talc; brucite; apatite; muscovite (^{"didymite"}); kyanite (^{"disthen"});
serpentine (antigorite; picros mine); asbestos; chrysotile; ? metaxite
[var. of chrysotile]; chlorite; epidote (tholite; zoisite); scapolite;
garnet (Andradite ^{"mefapit"}, & var. aplo me ^{"allachroit"}; grossular; spessartine); Idocrase;
sphene; fluorite; paragonite; fuchsite; "chromglimmer" [^{var. of biotite} a mineral];
also syn. of fuchsite]; margarite; Oellacherite; damourite ("margarodit");
diopside; "diallage"; tremolite ("gramatit"); actinolite ("zillerthit");
carinthine ("Karinthin"); tourmaline; rutile; anatase; chromite; magnetite;
ilmenite; haematite; limonite; mesitite ("mesitin"); pyrite; diaspore.

L. Liebenauer "Die Mineralien Tyrols" (1852): p. 2: Albite (am Heinzenberge bei Zell "on map"); Apatite (Greinerberg [Spargelstein], and Rothenkopfe); diopside (Schwartzenstein); Olivine & celestite (Greiner);

epidote (Röthenkopf & Schwarzenstein); Idocrase (Schwarzenstein A "eben so schön!"); Kyanite ("greiner, dann in Hörpinger Grund & Fürtschlagl"); amethyst (Röthenkopf); Rutile (Schwarzenstein, Rosskohr, & greiner).
sphene (on pericline & chlorite & chloriteschiefer - Schwarzenstein, Ochsenkopf and "am Röthenkopfe")

Doblicka "Tirols Minera" (1852) Wien. p. 55: sphene ("Ochsenkopf auf der Alpe Schwarzenstein"); p. 57, rutile ("Berg Roskar auf der Alpe Schwarzenstein", im glimmerschiefer"); p. 40, diopside (Röthenkopf & Schwarzenstein).

SCHWARZENSTEIN, Zillertal, Tyrol.

Z 3

GM: Orthoclase, var adularia, transparent. ~~translucent~~

BM: Muscovite, var fuchsite; vg bright green, with lepidomelane;

Jana₆. Sphene; apatite; diopside; biotite;

Doblicka: ⁽¹⁸⁵²⁾ Diopside; rutile ("Berg Roskar, in glimmer schreter"); sphene
(Ochsenkopf)

Liébener (1852): Diopside; epidote; idocrase ("eben so schön!"); rutile;
sphene (on peridine, chlorite & chloriteschist);

v Klehelsberg (1935) Rich loc: "Schwarzensteinalpe" See "Zillertal" (Zillertal)

GREINER, Zillertal, Tyrol.

24

Rutley 15th Ed, p 125: Staurolite; p. 128, Talc.

Classic Actinolite in talc schist loc.

Dana, Actinolite, in schists; diaspore; kyanite; chlorite.

Liebener: ⁽¹⁸⁵¹⁾ Apatite (Greinerberg-Spargelstein); olivine; celestite; kyanite; rutile;

vKlebsberg (1935) Rich locs: "Greiner-Hang" See "Zillertal" (Z1,2)
"Talggenköpfe" [just S. of Greiner]

AP Reid Above Furtschlagel-Haus, in Talggenköpfe

area- vg actinolite; vg green falc;
vg magnetite

ROTHENKOPF, Zillertal - Tyrol.

Z 5

ROTKOPF.

Dana; Sphene; apatite; ~~mag~~ magnetite; best muscovite.

Oxford Mus Spec. Clinochlore, "Roth Kopf, Zillertal"

Doblicka: Diopside;

Liebener⁽¹⁸⁵²⁾: Apatite; epidote; amethyst; sphene (on periclase, chlorite
echlorite schist);

v. Klebelsberg (1935) Rich loc: "Roter Kopf" See "Zillertal" (Z1, 2).

Prof Ladurner, Innsbruck (Priv. Comm 8/60). Rich loc. for mins is

at base of the serpentine blocs of Rotkopf &
Ochsner.

bergführer F. Steindl (Priv. Comm. 9/60). Diopside loose striated
green xls in scree in gully at bottom of Rotkopf.
- the "~~Diopside~~ rinne".

OCHSENKOPF, Zillertal, Tyrol.

Z 6

See Rotkopf (25)

Liebener (1852): Sphene (on periclinal, chlorite, & chlorite-schist);
(also Doblicka (1852)).

ROSSKOHLE, Zillertal, Tyrol.

Z 7

Liebener: ⁽¹⁸⁵²⁾ Rutile;

BAUMGARTALPE, Floite, Tyrol.

28

R. v. Klebelsberg "Geol von Tirol" (1935) p. 218. Anatase ("Floite")
laumontite ("Floite").

"Viele dieser Min. treten auch in den Chloritschiefern der

Unteren Schieferhülle auf und kehren in der östlichen Fortsetzung
~~der Unt. Schief. wieder~~

der Unt. Schief. in der Floite und Stillopp (Taxache A) wieder. Ein.

viel erwähnter Fundplatz in der Floite ist die Umgebung der

Baumgartalpe (Sonntagsklamm, Mörchen, Griesfeld,

Gigelitz; u. a. auch mancherlei Zeolithminerale:

Natrolit; Apophyllit; Desmin; Laumontite; letzterer ist

auch von verschiedenen anderen Stellen in der Floiße
bekannt).

TAXACHE ALPE, Stillupp, Tyrol

Z 9

R. v. Klebelsberg "Geol. von Tirol" (1935) p. 218 Anatase.

"Viele dieser Min. treten auch in den Chloritschiefern der Unteren Schieferhülle auf und kehren in der östlichen Fortsetzung der Unt. Schief. in der Floite und Stillupp (Taxache Alpe) wieder." ...
(see "Baumgartalpe" Z 8)

HEINZENBERGE bei Zell, Zillertal Tyrol

Z 10

(On map)

L. Liebknecht. "Die Mineralien Tyrols" (1852). Albite

RSW, GR, GS 9/60. Large quarry noted on top of hill above
Heinzenberg. Is this the loc.?

Gold mines at Heinzenberg near Zell in Ziller.

UPPER AUSTRIA

VORARLBERG