THE MINERALOGICAL RECORD

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Photo by Harold and Erica Van Pelt, Los Angles

A note from Dona....

Wayne...
Reviewing our show schedule-
Costa Mesa, Dallas, Joplin, St. Marie,
Springfield, Denver and Munich.
Have you guys decided where you
will bring the Philadelphia Academy
collection for it's first outing? Let
me know on that one. Also,
remember... a week after returning
from Europe we have the museum
reception at the house for the
National Geographic photographers
(sorry Van Pelts!).

(Dona

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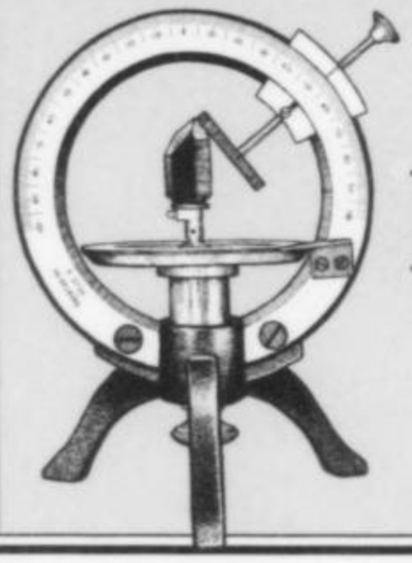

THE MINERALOGICAL RECORD

May–June 2007 Volume Thirty-eight, Number Three

Articles

Columns

COVER: EUCLASE
crystal, 2.6 cm, on calcite, from the El Oriente tunnel, Chivor mine, Boyaca, Colombia. William Larson collection; Van Pelt photo.

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notes from the EDITORS

Minerals on Coins

The "Notes from the Editors" column is our place to show items of mineralogical miscellanea that come across our desk, but that don't fit into any of the usual categories elsewhere in the magazine. Here is another such item, inspired by the Australian theme of the 2007 Tucson Gem & Mineral Show (see "What's New").

Readers of this magazine are well aware of the depiction of minerals on postage stamps. Many hundreds of them have been issued by various governments over the years, and we have depicted not a few above our *Letters to the Editor* column. Vastly rarer, however, is the depiction of mineral specimens on official government-issued coins. In fact, the following may be the only example (does anyone know of others?).

In 1986 the Perth Mint (actually the Gold Corporation, a company wholly owned by the government of Western Australia) began issuing legal-tender Australian gold bullion and proof coins bearing the images of famous named Australian gold nuggets—a different nugget on each of four denominations (1 oz., ½ oz., ¼ oz. and 1/10 oz.). These beautiful coins are not an alloy—they are pure 99.99% gold. In 1987 the original four nuggets were portrayed on the bullion coin series, but four new, different nuggets were portrayed on the proof set, and in 1988 yet another four on that year's proof set. A portrait of Queen Elizabeth II is shown on the reverse of all coins. The nugget series unfortunately ended there; since 1989 Australian gold bullion coins have carried depictions of kangaroos, and so, although they used to be referred to as "Australian Nuggets" (and some people still do call them that), the coins are now more generally referred to as "Australian Kangaroos."

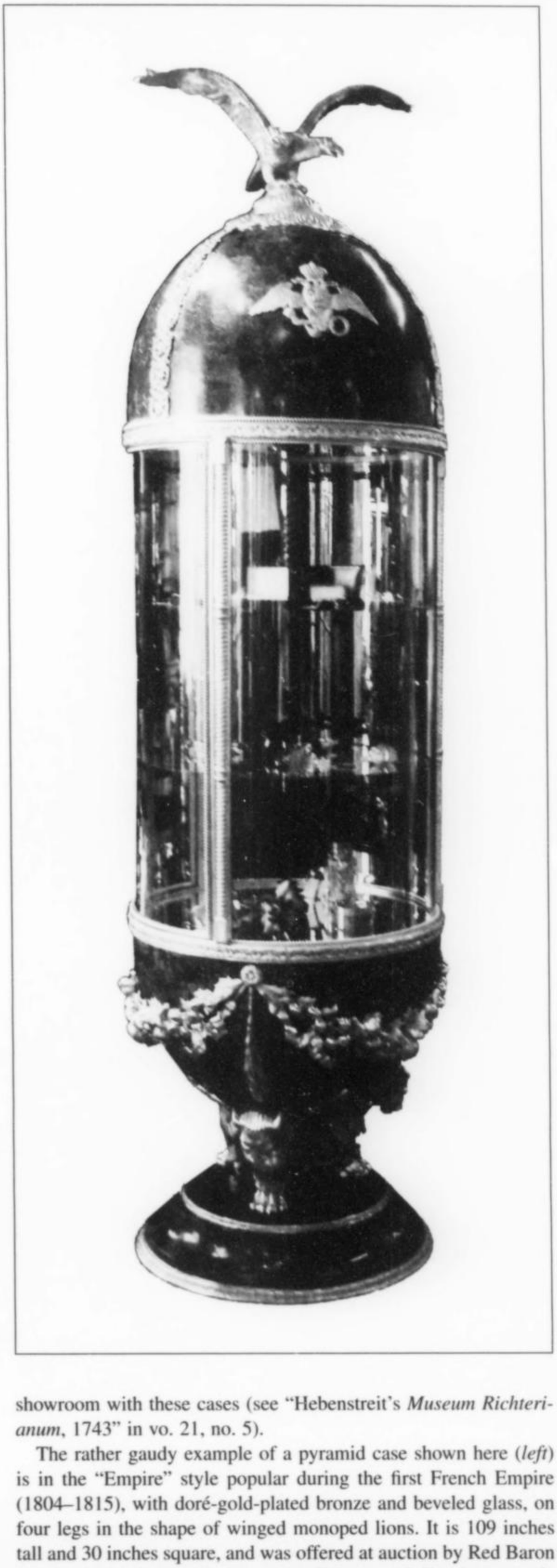
Thus the complete Australian Gold Nugget proof series depicts a total of 12 different Australian gold nuggets. The names of the nuggets, and the years in which they were originally found, are as follows:

1986: Welcome Stranger (1869), Hand of Faith (1980), Golden Eagle (1931), Little Hero (1890)
1987: Poseidon (1906), Father's Day (1979), Golden Aussie (1980), Bobby Dazzler (1899)
1988: Ruby Well (1913), Jubilee (1887), Pride of Australia (1981), Welcome (1858)

[*Above*] Tobacco poster depicting the discovery of the "Welcome" nugget in Australia in 1858 (not to be confused with the "Welcome Stranger" nugget found in 1869. [*Right*] the four 1986 coins in the Perth Mint's "Australian Nugget" series.

Mineral Cases

Periodically we feature ideas for collector cabinets and exhibit cases. Pyramid-shaped exhibit cases were popular as early as the 18th century. The wealthy Leipzig mineral collector Johann Christoph Richter (1689-1751), for example, populated his mineral showroom with these cases (see "Hebenstreit's *Museum Richterianum*, 1743" in vo. 21, no. 5).



The rather gaudy example of a pyramid case shown here (*left*) is in the "Empire" style popular during the first French Empire (1804–1815), with doré-gold-plated bronze and beveled glass, on four legs in the shape of winged monoped lions. It is 109 inches tall and 30 inches square, and was offered at auction by Red Baron Auction house in Atlanta, Georgia on February 17. For those people

who can't afford an actual antique, however, the style could certainly be copied in a nice hardwood by a custom cabinetmaker.

Just in case the doré-bronze example isn't quite gaudy *enough* for your taste, Red Baron also offered a cylindrical exhibit case in green malachite and gilded bronze with winged lions for a pedestal, gilded garlands all about, and a winged eagle on the top. The gilded two-headed-eagle coat of arms is that of the Russian Empire. The case measures 95 inches tall and 28 inches in diameter (shown at right on the previous page), and originally stood in a shop in St. Petersburg, Russia for many years. If this one doesn't draw the attention of guests in your house, you might as well give up. Trying to find mineral specimens that can compete with the case they're in would be another problem, however.

Submitting Digital Photographs

Digital-format photography, maps and diagrams for articles, ads and columns in the *Mineralogical Record* are being submitted with increasing frequency these days, and people have been asking for specifications. Mostly they just want to know what resolution we need, and that is easy to answer: We require images that will have a resolution of 300–400 dpi (dots per inch, identical to pixels per inch) *at the size published*. Obviously a photo published full-page size will require higher resolution than one published at quarter-page size. Of course, the person submitting the image to us can't always be certain of the exact size that we will choose when the article is laid out, so it's best to provide high enough resolution to accommodate a reasonable range of enlargement.

Suppose, for example, that a photo will be published one column wide (=3.31 inches). At 300 dpi (ppi), that will require a digital image that is at least 993 pixels wide (that is 300 × 3.31). If the same image were to be published at full-page width (=7 inches), the required minimum image size would instead be 2100 pixels wide. It's unlikely that we would ever want to publish an image much larger than two-column width in an article, so an image size between 1000 and 2100 pixels wide will generally be sufficient. Please remember that it is not possible to increase the actual resolution by digitally enlarging a lower-resolution image.

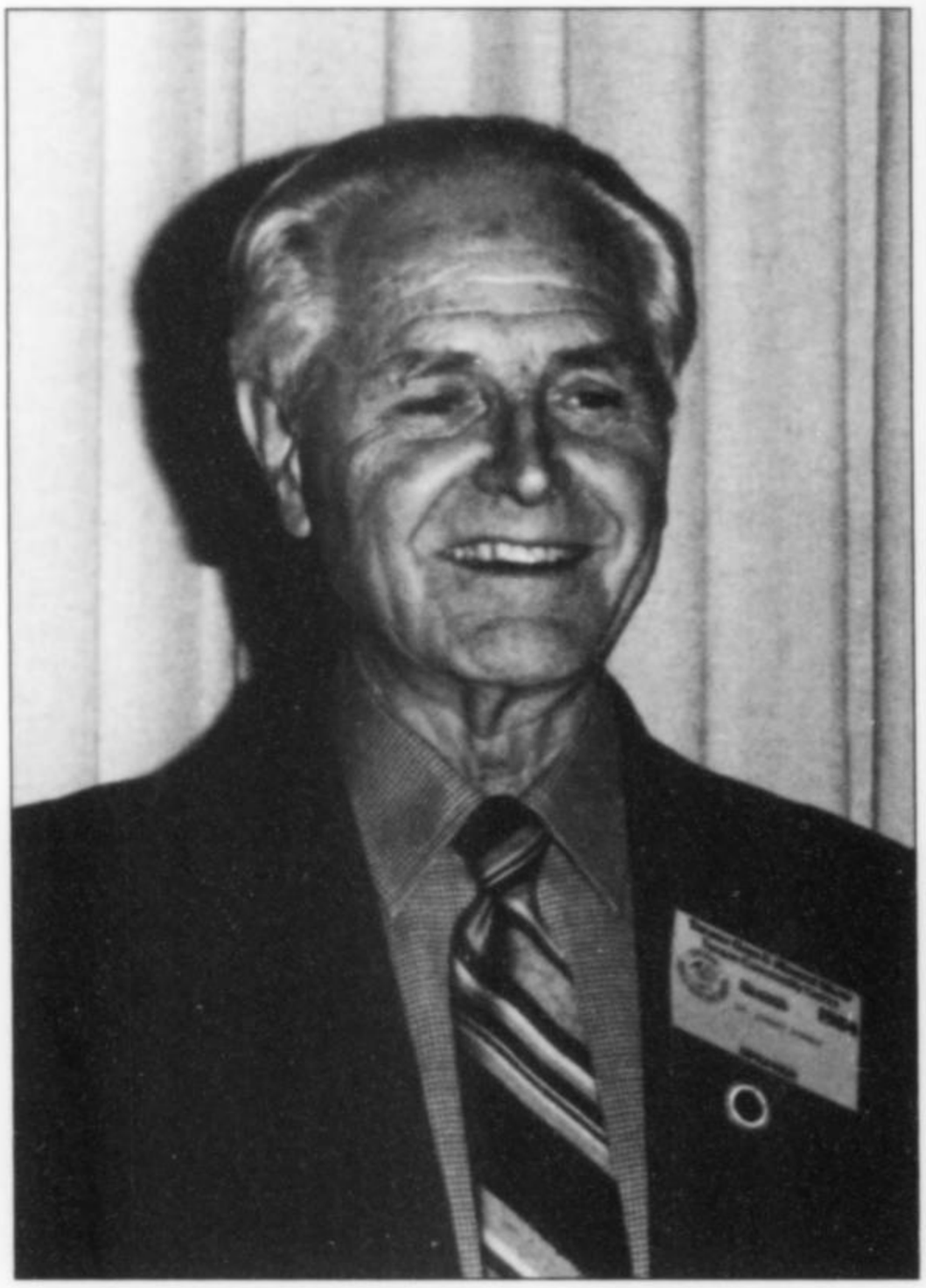
Photos can often be refined and improved using Photoshop to address matters such as color fidelity, light-source problems, exposure errors, dust-speck removal, tonal range, color profile selection, saturation, sharpness, removal of graininess, and the manipulation of the background, among other things. However, photos intended for publication have more rigorous requirements than might be expected, and these processes can therefore be difficult to carry out correctly. We therefore prefer that, unless the submitter has long experience and professional-level skill with Photoshop, all photos be submitted in unmodified form and we will take it from there.

This might also be a good place to remind authors not to submit 35-mm slide *duplicates*, but rather only *originals*. Although they may appear identical upon superficial examination, duplicate 35-mm transparencies invariably lose something in the transition, resulting in reduced resolution, increased graininess, altered tonal range, and a slight to significant degradation of the colors. These problems generally *cannot* be satifactorily corrected later on Photoshop. So, in order to assure the highest quality reproduction of your photography in the magazine, please submit only originals.

Stolen Specimens Alert

At almost every major mineral show we hear stories of important or valuable specimens that were stolen, usually from dealers. Collectors also suffer losses periodically, and museum collections have always been vulnerable. As a service to the Mineral Community, the Mineralogical Record website (www.MineralogicalRecord.com) now offers a department called "Stolen Specimen Alert." This page is for the use of collectors, mineral dealers and mineral curators who wish us to post information and photos regarding specimens that have been stolen. The posting currently on that page show specimens from the John Lucking collection that mysteriously disappeared during tear-down on the last day of the Tucson Gem and Mineral Show (Sunday, February 11).

Anyone wishing to avail himself of this service should send digital photos (jpeg format, at least 600 pixels wide) along with size, descriptive information, and the circumstances of the theft or disappearance, to the editors at **minrecord@comcast.net.** We hope this service will help in the recovery of lost specimens, and that it will also serve as a deterrent to potential thieves who might formerly have believed that stolen specimens cannot be identified and tracked back to them.



Howard K. Worner (1913–2006)

Died, Howard K. Worner, 93

Professor Howard Knox Worner, CBE, FAA, FTSE, eminent metallurgist, scientist and mineral collector, died peacefully in Wollongong, Australia on November 17, 2006 at the age of 93.

Born on August 3, 1913, Howard grew up with his two brothers on a remote farm in the Mallee district of western Victoria, Australia. His tertiary education commenced at the Bendigo School of Mines where he excelled at chemistry, metallurgy and geology, gaining the Gold Medal in 1932. In that same year, after a visit to Broken Hill, New South Wales, Howard's interest in mineral collecting was aroused, a passion which he embraced for over 70 years. From Bendigo he moved to the University of Melbourne where he gradu-

ated with a Bachelor of Science with First Class Honors in 1934 followed by a Master of Science with First Class Honors in 1936. In 1942, at the age of 28 and as their youngest ever recipient, he was awarded a Doctor of Science from the University of Melbourne for published work.

From 1937 to 1946, Howard pioneered research which was extremely beneficial to the dental and surgical professions. In addition to applying his metallurgical skills to improving amalgams for fillings, he also formulated new restorative and implant materials in polymers and ceramics as well as in alloys. He designed artificial limbs for returned servicemen and pioneered the development of facial prosthetic devices. Much of this work involved designing and fitting ears, noses and chins, which he described as "traumatic, but extremely rewarding."

In the decade following World War II, Howard was Professor of Metallurgy and then Dean of Engineering at the University of Melbourne. He was a brilliant, charismatic lecturer, inspiring many to follow in his footsteps.

In 1955 he accepted the position of the first Director of Research for the Broken Hill Proprietary Company Limited, now BHP-Billiton Limited. Howard moved his family in 1956 to Newcastle, New South Wales, where he established and became the first Director of the Central Research Laboratories for BHP, which remains one of the world's leading industrial research bodies.

After a sojourn overseas working as a consultant, Howard returned to Melbourne in 1963 to become the Director of New Process Development with CRA Limited, a position he held until his formal retirement in 1975. During his period of employment at CRA, Howard was responsible for the groundbreaking research and development of the WORCRA process for continuous, clean metal extraction. Subsequent modifications to this original process are now operating in Japan, China and Russia.

After his formal retirement, he continued to seek ways of using his knowledge and energy by chairing Energy Committees established by both State and Federal governments and served on other strategic committees, including being Chairman of the Victorian Brown Coal Council 1975–1982. His retirement activities included a position on the National Museum of Victoria Council from 1974 to 1981, holding the position of Deputy President during the last two years of his term of office. In April 1979 Howard accepted the role of Patron of The Mineralogical Society of Victoria, succeeding his former Managing Director at CRA Limited, Sir Maurice Mawby. He was the principal editor of the classic *Minerals of Broken Hill*, published in 1982 to celebrate the centenary of the discovery of the Broken Hill orebody, and attended the 1983 Tucson Show where he autographed many copies in the *Mineralogical Record* booth.

In 1986, Howard moved to Wollongong, New South Wales for family reasons. He continued his scientific pursuits at the University of Wollongong which was keen to have an icon of materials science, making him Director of the Microwave Applications Research Centre. His research included the application of microwave irradiation to processing materials and a viable recycling process using sewage sludge and unused steelworks dust to produce marketable foundry iron and zinc oxide pigment.

Howard's achievements during his lifetime have been widely recognized and acclaimed. He held Honorary Doctorates from the Universities of Newcastle, Melbourne and Wollongong. He was elected a Fellow of the Australian Academy of Science in 1973 and was a Foundation Fellow of the Australian Academy of Technological Sciences and Engineering in 1975. Among the civil awards was Howard's appointment as Commander of Order of the British Empire (CBE) in 1978 and the Centenary Medal in 2003.

Howard's lifetime passion, after his family, was minerals, not only collecting them but also understanding their formation. He had a very fine eye for quality and was interested not only in the very best but also the unusual. Over 70 years he built three mineral collections. He gave away many specimens when as a Professor of Metallurgy at the University of Melbourne he thought it would be too demanding to combine the hobby with the career, but the interest was too strong and he started collecting again, using his contacts as a metallurgist to get to some interesting mines. When he left Melbourne for Wollongong he disposed of many of his larger specimens and culled his collection down to about 1000 specimens. In 2000, Howard donated his mineral collection, including his medals and awards, to the University of Wollongong where it is now proudly on permanent display in the foyer of the Sciences building (see *Australian Journal of Mineralogy*, vol. 7, no. 1, pp. 19–26 for the full story).

Howard Worner was an exceptional and inspirational scientist, pioneer metallurgist, keen mineral collector and a very personable human being with a highly-developed social conscience. He was at ease with everybody, be it in the academic circles of his working life or amongst fellow mineral collectors with whom he would share his enthusiasm for the subject. A gentle, inquisitive and intelligent gentleman, he will be sadly missed.

Bill Birch

Note new Email address for editor Tom Moore: **tpmoore1@cox.net**

Franklinite-Willemite *Frederick C. Wilda ©2006*

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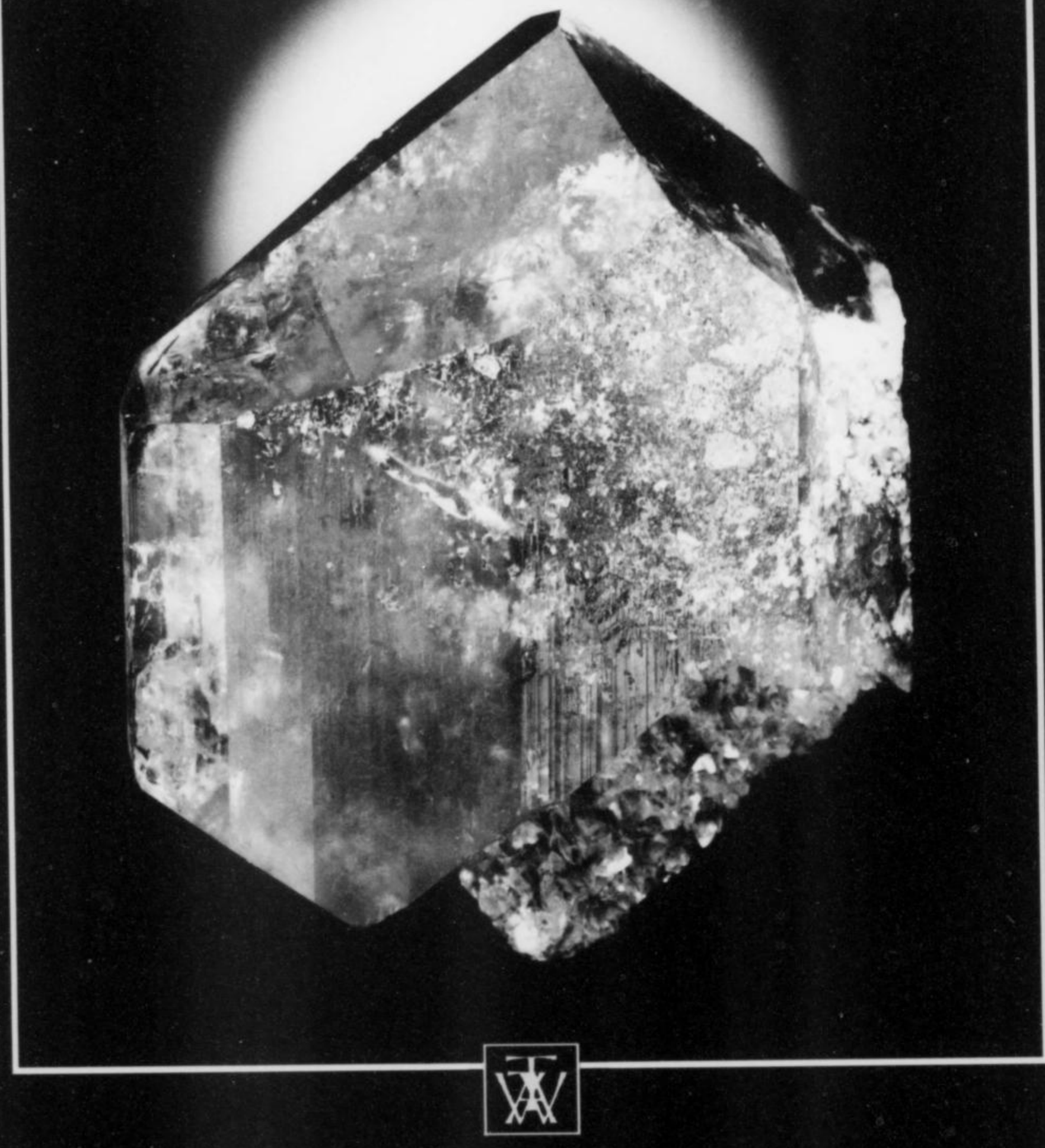

Wayne A. Thompson

fine minerals

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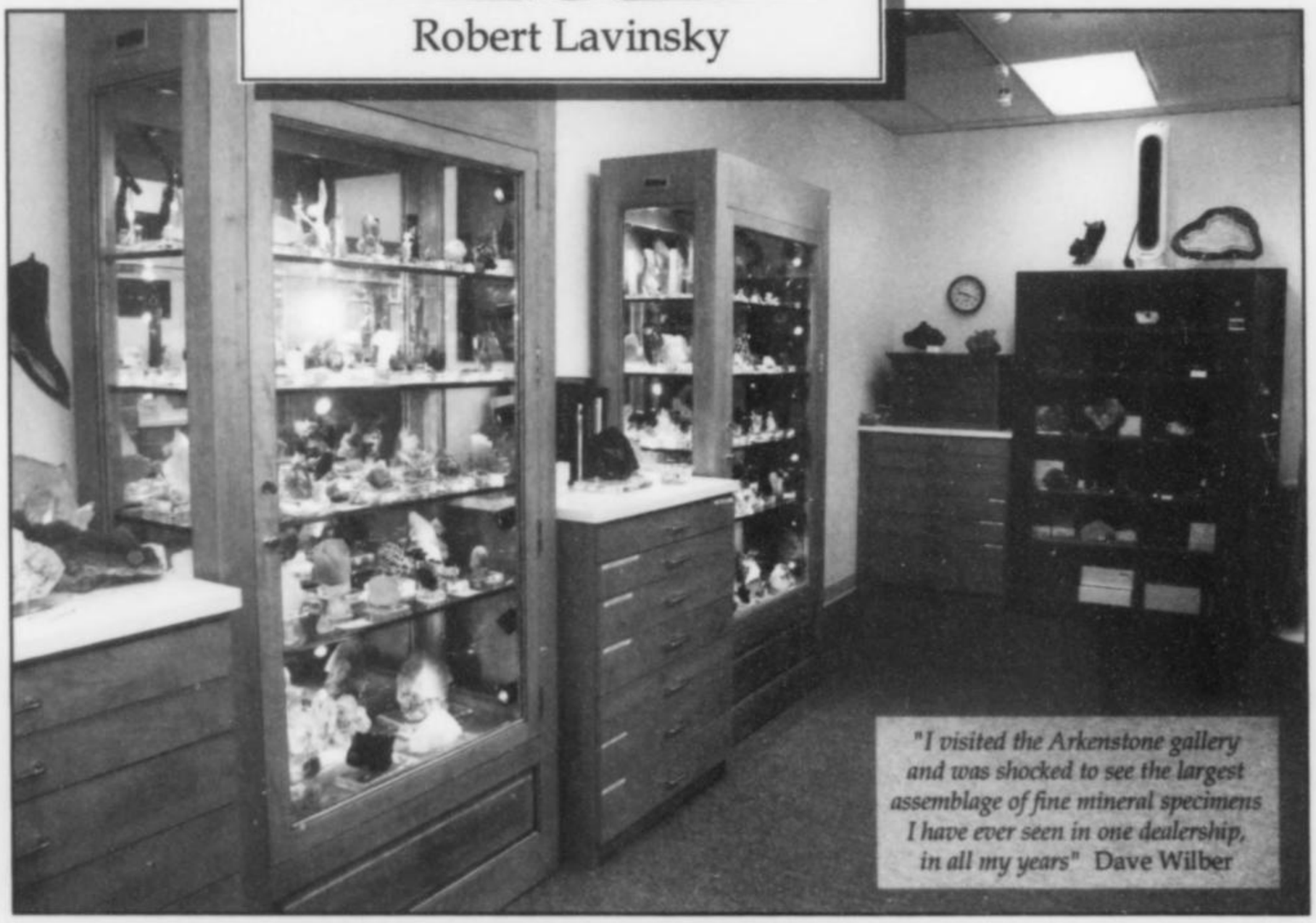

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India's Deccan Traps are famous the world over for an unparalleled abundance of beautiful and diverse zeolites and associated minerals. The Lonavala quarry has produced fine specimens of green fluorapophyllite, some of the world's finest specimens of mesolite (after those of the Pashan Hills quarries), and recently some specimens of the beautiful blue vanadium minerals cavansite and pentagonite, formerly known primarily from the Wagholi quarry complex.

INTRODUCTION

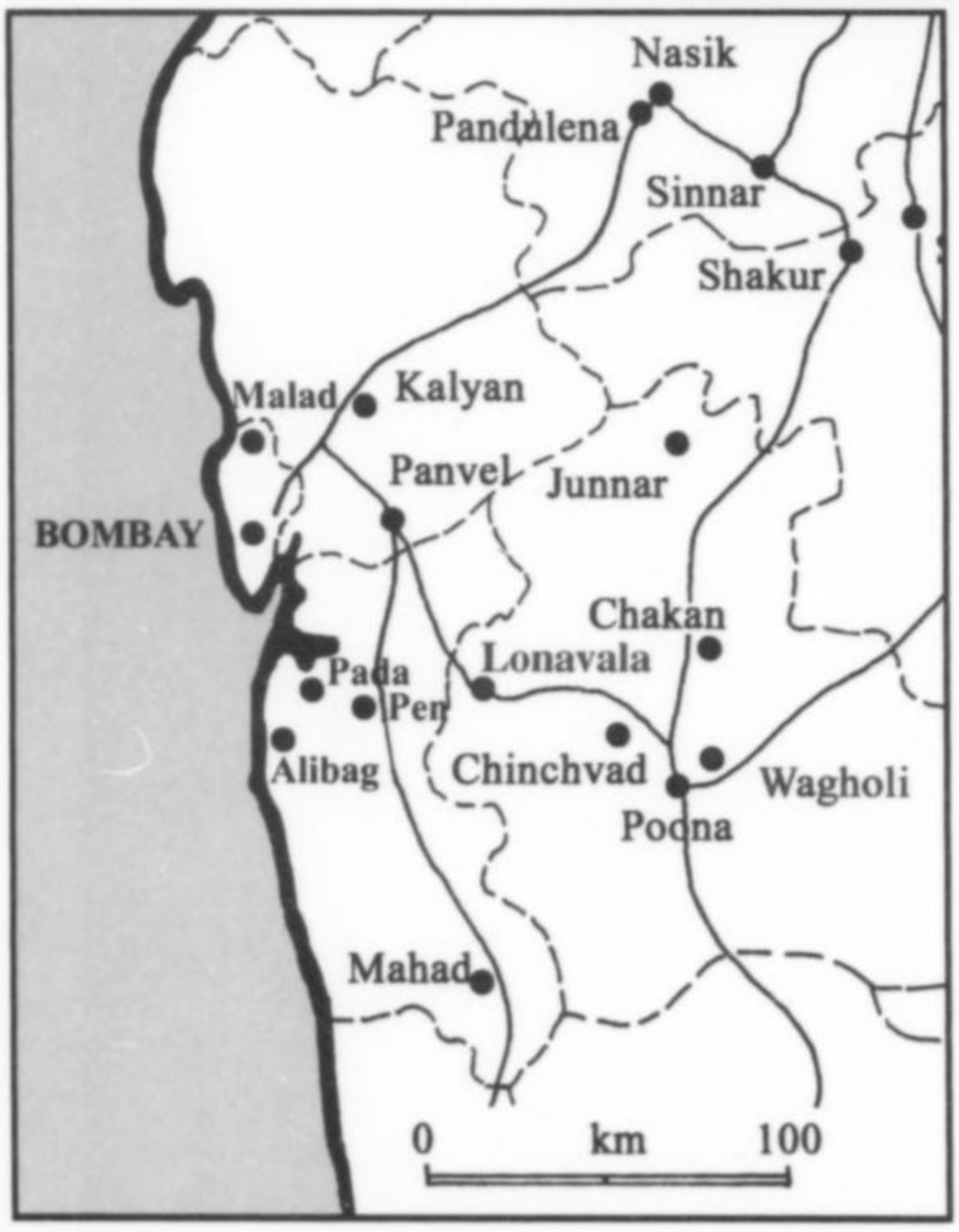
Among the most attractive of the Deccan Trap minerals—because of their intense colors—are the vanadium-containing species: green fluorapophyllite, cavansite and pentagonite. The Wagholi quarry complex near Pune has, until recently, been the only area to yield good-quality specimens of the two polymorphic calcium-vanadium silicates: cavansite and pentagonite. In 2003, however, an occurrence of these two minerals was discovered at the Lonavala quarry in the eastern end of the Ghats Range between Bombay and Pune, during The Second Indian Scientific Expedition of The "Spirifer" Geological Society. This quarry was previously very well known for producing top-quality mesolite and attractive green (vanadium-bearing) fluorapophyllite.

EARLIER WORK

The first specimens of cavansite ever identified from India (lacking precise locality information) were introduced during gem and mineral shows in 1973–1974; the first reference in the literature is Birch (1977). Beginning in 1988, following the discovery of cavan-

Figure 1. **Satellite photo showing the city of Lonavala, the surrounding lakes (black) and the location of the quarry.**

Figure 2. **Location map showing Lonavala and Wagholi.**



site-rich zones in the Wagholi quarries, specimens became numerous on the market, and detailed descriptions of their provenance were published by Wilke *et al.* (1989), Wilson (1989), Kothavala (1991), and most recently Makki (2005). Cavansite was also described by Mookherjee and Phadke (1998) from three localities other than Wagholi: a road-cut near Sutarwadi (about 10 km west of Pune), the Yedgaon Dam quarry near Narayangeon (about 100 km north-northwest of Pune), and Surli Ghat (about 15 km east of Karad, in the Satara District).

The presence of pentagonite in India was not confirmed until 1999. The first positive identification of pentagonite from the Wagholi complex was published by Ottens *et al.* (2000) and later by Ottens (2001) and White (2002); detailed data confirming its presence there were given by Ottens (2003), who also described the Lonavala quarries briefly, noting the presence of green apophyllite and mesolite crystal sprays to 5 cm.

GEOLOGY

The following quarries are found within 5 km of Lonavala: the Shah quarry, the Mittal quarry, the Hazare quarry, the Dharmendra quarry and one managed by Palekar. The one referred to here as the Lonavala quarry is situated in a suburban area to the east of the Lonavala city center. It is the most famous quarrying site in the Lonavala area, and is found on the northern slopes of a small range, about 4 km southeast of the Lonavala railway station, just a few hundred meters from Sinhagad College. The easiest way to get to the eastern Lonavala quarry from the city center is to take a motorized rickshaw ride for about 100 Rupees (about $2.50). Two other local quarries sometimes also referred to as Lonavala quarries are situated a few kilometers to the east, but are not *in* Lonavala city. In any case, from the mineralogical (and collector) point of view they are definitely less interesting than the "main" quarry.

The principal rock type in the main Lonavala quarry (as might be expected in the Deccan Traps) is basalt. At the upper level of the quarry is found the only horizon containing lens-shaped, rather flattened, horizontal cavities and vesicles. Cavity diameters can reach several meters across (though only a few tens of centimeters high). The most popular collectible minerals inside these cavities are green fluorapophyllite associated with white, acicular mesolite. Stilbite and calcite crystals are also found. The lower basalt horizons in the quarry contain no cavities.

In early 2003, during the Second Scientific India Expedition, members of the "Spirifer" Geological Society were able to explore a newly uncovered zone in the lower-most part of the quarry. This zone consists of highly tectonically fractured andesite which has been altered by hydrothermal activity. The rock is reminiscent of the altered pillow basalt breccias from the volcanic pipe in the Wagholi

complex. Like the Wagholi basalts, the Lonavala andesites contain a great number of cavities; however they have been uncovered in only a few areas at the bottom of the quarry. For the time being, it is impossible to reconstruct the shape of the entire andesite body. Future quarrying will probably expose the zone much better, and more knowledge about its structure and mineralization will then become available.

A cavansite and pentagonite occurence at the Lonavala quarry was noted for the first time during the 2003 visit of the Society. The andesite containing the attractive minerals is dark brown in color with a purple tint. The best specimens at Lonavala are found in lenticular, sometimes elongated geodes and cavities. A relatively small height-to-width ratio (3–5 cm in height and over 15 cm in width is typical) limits the number of large, uncontacted crystals that can be found. Small crystals (up to 1 cm) can also be found within vesicular cavities (which are relatively small—up to few centimeters in diameter). Sometimes these comprise as much as 50% of the rock volume. Commonly the geodes contain heulandite and quartz, and rarely also mordenite, stilbite and calcite. Individual clusters of cavansite and pentagonite crystals can be found between the stilbite and calcite crystals. About 30 specimens of cavansite and pentagonite were recovered during the Society's visit, making this locality highly interesting as a target for future collecting possibilities.

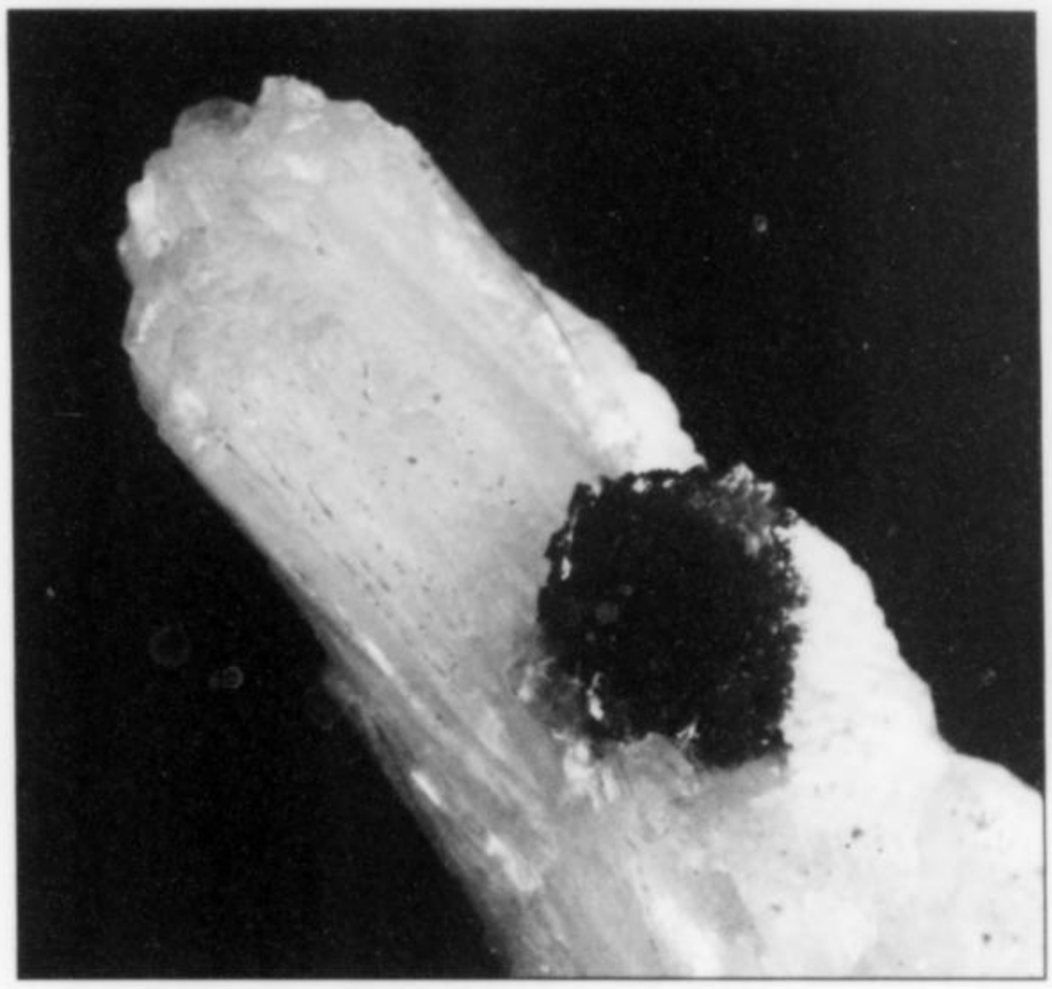


Figure 4. **Cavansite (1 cm) on stilbite crystals from Lonavala. "Spirifer" Geological Society collection; photo by Malgorzata Bienkowska.**

MINERALS—ANDESITE CAVITIES

Calcite $CaCO_3$

Calcite is a relatively rare mineral in andesite cavities at Lonavala, forming yellow, transparent crystals to a few centimeters in length. In larger geodes they are well-formed and nearly euhedral. Calcite crystals typically cover first-generation crystals of heulandite, and are themselves covered by later mordenite. Small clusters of cavansite crystals have been observed inside transparent crystals of calcite.

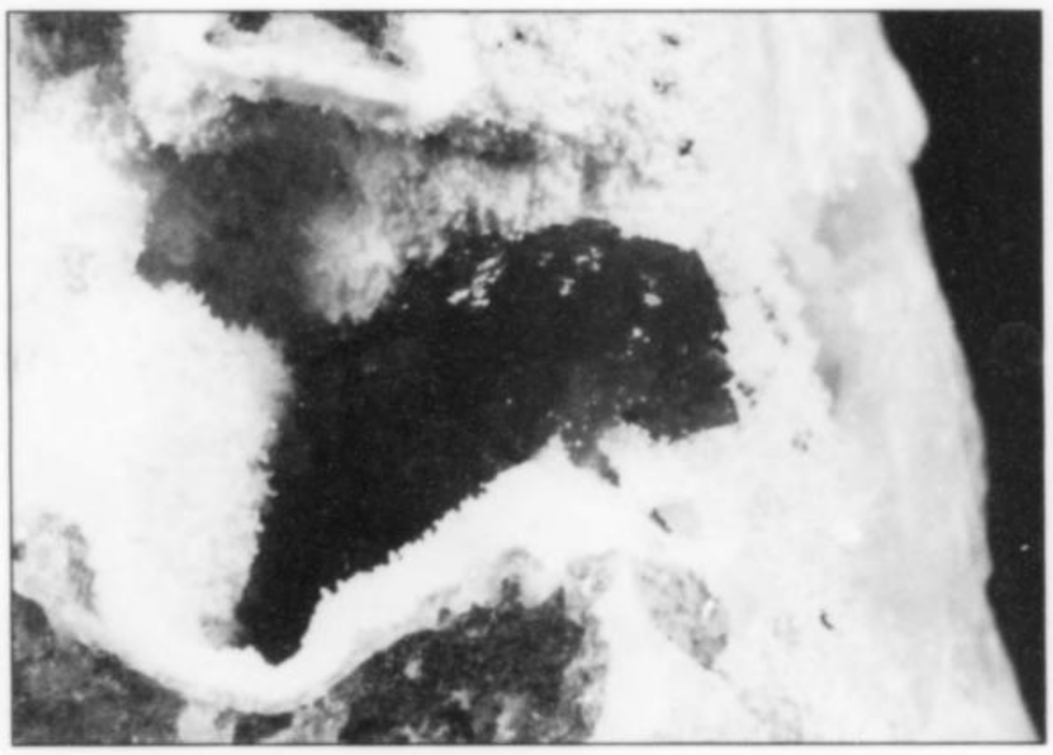


Figure 3. **Cavansite (1 cm), on a layer of white quartz with thin crystals of first-generation heulandite (between the quartz and the matrix) in a vug in andesite, from Lonavala. "Spirifer" Geological Society collection; photo by Malgorzata Bienkowska.**

Cavansite $Ca(V^{4+}O)Si_4O_{10}\cdot 4H_2O$

As at the Wagholi complex, cavansite at Lonavala forms tabular crystals with dominant forms $\{\bar{1}10\}$, $\{\bar{1}\bar{1}0\}$, $\{\bar{1}01\}$, and rarely {001}. Crystals are grouped in spheroidal clusters up to 1.5 cm across. Radial cavansite aggregates are sometimes found in small-scale shear zones cutting fractured volcanic rock. In general, cavansite clusters occur on surfaces of first-generation heulandite. During the last stage of crystallization of cavansite, crystallization of quartz also took place; thus white, spheroidal aggregates of quartz can be found in the core of cavansite clusters and also growing on their outer surfaces. Cavansites are sometimes found completely overgrown by calcite and stilbite.

The presence of cavansite at the Lonavala quarry was confirmed by X-ray diffraction analysis. The chemical composition of Lonavala cavansite is very similar to that of cavansite from Wagholi.

Heulandite-Ca $(Ca_{0.5},Na,K)_9[Al_9Si_{27}O_{27}]\cdot\sim 24H_2O$

Two habits of heulandite clusters, reflecting two generations of crystallization, can be distinguished among the specimens from the Lonavala andesite. First-generation heulandite forms a colorless, transparent, continuous coating on the rock surface in geodes. The thickness of the layer typically does not exceed 1 mm. This heulandite coating may itself be covered by quartz; euhedral crystals of first-generation heulandite (up to few millimeters in size) forming above the quartz cover are rare. Heulandite of the second generation forms lustrous, euhedral, white to transparent crystals of typical heulandite habit on the quartz layer. The crystal size rarely exceeds a few millimeters. Small crystals of second-generation heulandite are occasionally found on cavansite clusters.

Mordenite $(Na_2,Ca,K_2)_4[Al_8Si_{40}O_{96}]\cdot 28H_2O$

Mordenite occurs in association with cavansite and pentagonite, as "cotton ball" aggregates. They can occur on quartz coatings and covering calcite crystals. Some specimens identified in the past as okenite may instead be mordenite. Its identity was confirmed on numerous specimens by X-ray diffraction analysis.

The paragenetic relationship to other minerals at Lonavala is not clear, but Ottens (personal communication) has only seen mordenite in India as the earliest-formed constituent of the cavities, especially at Wagholi where it clearly predates the cavansite and pentagonite.

Pentagonite $Ca(V^{4+}O)Si_4O_{10}\cdot 4H_2O$

A single cluster of pentagonite crystals was found among the 30+ specimens of cavansite collected from the andesite at Lonavala in

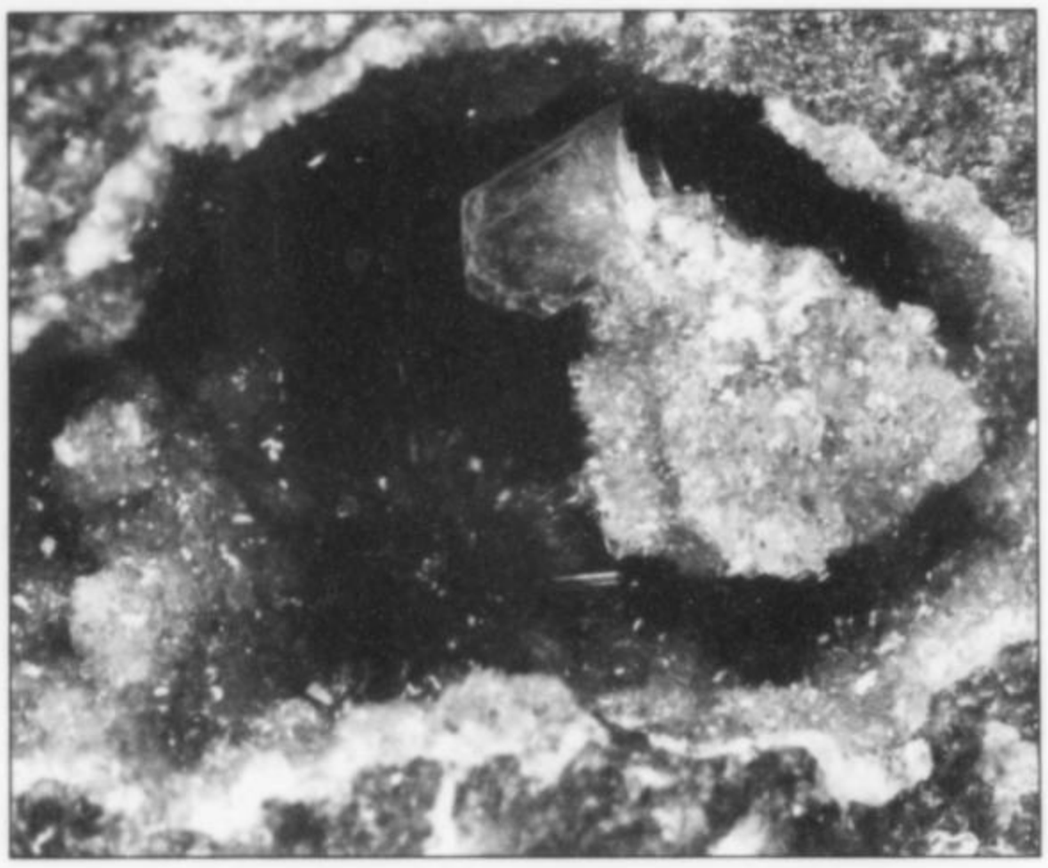


Figure 5. **Pentagonite crystal spray (3 mm) in a vug in basalt, with stilbite, from Lonavala. "Spirifer" Geological Society collection; Jeff Scovil photo.**

2003. As at Wagholi, it appears to be much rarer than cavansite. The specimen consists of small aggregates (up to few millimeters) of acicular, non-transparent blue crystals with dominant forms {110} and {201}. In some cases, characteristic twinning along {110} serves to distinguish this pentagonite from cavansite. Pentagonite crystals occur implanted on first-generation crystals of heulandite.

Quartz SiO_2

In zones where cavansite and quartz occur together, the quartz forms characteristic druses up to 1 mm thick, consisting of tiny spherical clusters. These coatings totally cover first-generation crystals of heulandite. Well-formed crystals of mordenite, second-generation heulandite, stilbite and calcite are found on these quartz coatings. Quartz can also partially cover cavansite crystals or form small spheres within the outer zones of radial cavansite clusters. Similar spherules have been found in stilbite crystals as well. No euhedral quartz crystals have been found within the geodes containing cavansite and pentagonite.

Stilbite-Ca $(Ca_{0.5},K,Na)_9[Al_9Si_{27}O_{72}]\cdot 28H_2O$

Stilbite crystals in cavities in andesites from the Lonavala quarry can reach 10 cm in size. They are creamy white in color and in some cases are semi-transparent. Rarely the crystal faces have a brilliant luster. Individual crystals are grouped in typical stilbite wheat-sheaf clusters on quartz, first-generation heulandite and cavansite. Sometimes spherical clusters of quartz can be observed as inclusions within stilbite crystals.

PARAGENESIS—ANDESITE CAVITIES

The approximate crystallization sequence, as determined from the specimens we have studied, is shown in Figure 6. At the initial stage, first-generation heulandite formed, followed by crystals of cavansite, calcite, quartz and pentagonite. Next came the crystallization of second-generation of heulandite and stilbite. Finally mordenite crystals covered the older minerals. The exact temporal relationship in the earlier-formed minerals is difficult to reconstruct, because no specimen of mordenite directly associated with stilbite and/or second-generation heulandite was found.

MINERALS—BASALT CAVITIES

Calcite $CaCO_3$

Calcite is a relatively rare mineral in the basalt at the Lonavala quarry, forming yellow, sometimes transparent and lustrous crystals to a few centimeters in length. In larger geodes they can be well-formed and nearly euhedral. Calcite crystals typically cover heulandite (with associated fluorapophyllite, mesolite and stilbite).

Fluorapophyllite $KCa_4Si_8O_{20}(F,OH)\cdot 8H_2O$

The fluorapophyllite found at the Lonavala quarry is almost always green or yellowish green (rarely deep green). It is typically more deeply colored in the zones nearest the terminations, and is similar in its color and blocky to short-prismatic habit to the apophyllite from the Pashan Hills. Subordinate {101} faces are usually present, and the {001} pinacoid faces tend to have a parqueted surface (Ottens, 2003). Usually apophyllite crystallizes with mesolite, rather than calcite and stilbite, on small, white to white-cream colored heulandite crystals. Crystals of fluorapophyllite commonly measure 1 to 2 cm, but the largest crystals can reach up to 4 cm. The most interesting specimens for collectors are the deep green fluorapophyllites associated with radial sprays of acicular white mesolite.

Heulandite-Ca $(Ca_{0.5},Na,K)_9[Al_9Si_{27}O_{27}]\cdot\sim 24H_2O$

Heulandite in cavities in basalt forms very lustrous, euhedral, white crystals of typical heulandite habit. The usual crystal size is about 5 to 10 mm, but some crystals can reach 2 cm. Heulandite coats rock surfaces in geodes, sometimes coated in turn by fluorapophyllite, mesolite, stilbite and calcite.

Mesolite $Na_2Ca_2(Al_6Si_9O_{30})\cdot 8H_2O$

The crystals of mesolite from the Lonavala basalt usually measure about 3–5 cm, but sometimes can reach up to 10 cm! They are very well crystallized, lustrous and sometimes transparent. Very characteristic are the termination faces which are more lustrous than the prism faces.

Mesolite always crystallizes in very fragile radial sprays. Usually crystals which are in the central part of the clusters are larger than crystals in outer areas. Mesolite usually crystallizes with

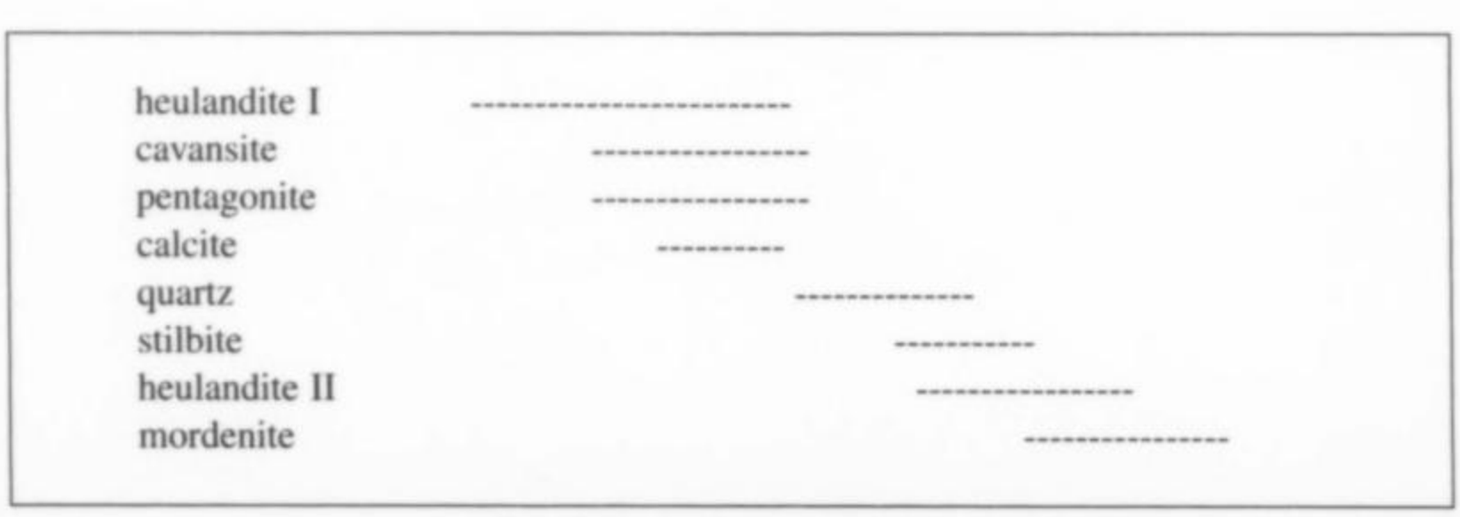


Figure 6. **Crystallization sequence of minerals associated with cavansite and pentagonite in the Lonavala quarry.**

fluorapophyllite on heulandite matrix. Mesolites from the Lonavala quarry basalts are among the best in India and are certainly among the finest in the world, next to those from the Pashan Hills quarries (which tend to have longer, thicker crystals). According to Ottens (2003), the quarries of Lonavala and the Pashan Hills are the only localities in India where mesolite is common.

Stilbite-Ca $(Ca_{0.5},K,Na)_9[Al_9Si_{27}O_{72}]\cdot 28H_2O$

Stilbite crystals in cavities in basalts in the Lonavala quarry are relative rare. They can reach about 10 cm in size, and are usually white or creamy white in color with lustrous crystal faces. Individual crystals are grouped in typical stilbite wheat-sheaf clusters on heulandite.

PARAGENESIS—BASALT CAVITIES

Most of the cavities in basalt are coated by small crystals of white heulandite, over which other minerals have crystallized. Most commonly green fluorapophyllite and mesolite occur on heulandite; calcite and stilbite are relatively rare. Usually minerals younger than heulandite in cavities form small scattered "gardens." Undoubtedly the minerals of greatest collector interest at the Lonavala quarry are the green fluorapophyllite and mesolite, especially when found together.

DISCUSSION

In both the Wagholi-Pashan Hills area and the Lonavala quarry, the characteristic assemblage of stilbite, heulandite, mordenite, cavansite and pentagonite can be observed, and nearby the assemblage of green fluorapophyllite, mesolite and stilbite. The similarities between the mineralogy of both areas suggest similar sources of mineralizing solutions enriched in vanadium. The exact origin of these solutions is not well understood.

A characteristic feature of Pune volcanic rocks is their enrichment in vanadium—up to 750 ppm versus 300 ppm average in neighboring regions (Ottens 2002, 2003). Ionic substitution between vanadium and iron is common in minerals, because V^{3+} and Fe^{3+} ions have very similar radii; consequently vanadium is quite common as a trace substitution in rock-forming minerals rich in iron, such as the pyroxenes, magnetite and ilmenite (Polanski, 1988). All of these minerals are important constituents of basaltic rocks, and from these minerals vanadium could have been remobilized by hydrothermal activity. Solutions containing vanadium may have migrated upward through the more porous rock units (e.g. the andesites), especially along highly fractured, brecciated areas that form chimney-like structures as described by (among others) Kothavala (1991). In response to changes in the physiochemical environment, crystallization of minerals enriched in vanadium could have taken place. Ottens (2002) believes that vanadium enrichment may well be the principal factor in the formation of cavansite and pentagonite at Wagholi, and may also be responsible for the green tinge of the famous apophyllites from the Pashan Hills region (they contain up to 1600 ppm V).

It must be noted that the amount of cavansite and pentagonite recovered thus far from the Lonavala quarry is very small in comparison to the amount that is mined every year at Wagholi. However, the authors think that if quarrying at Lonavala continues downward as it did in the Wagholi area, a similar horizon very rich in cavansite and pentagonite may well be encountered.

ACKNOWLEDGMENT

Our thanks to Berthold Ottens and Dr. George W. Robinson for reviewing the manuscript of this article and offering helpful suggestions and information.

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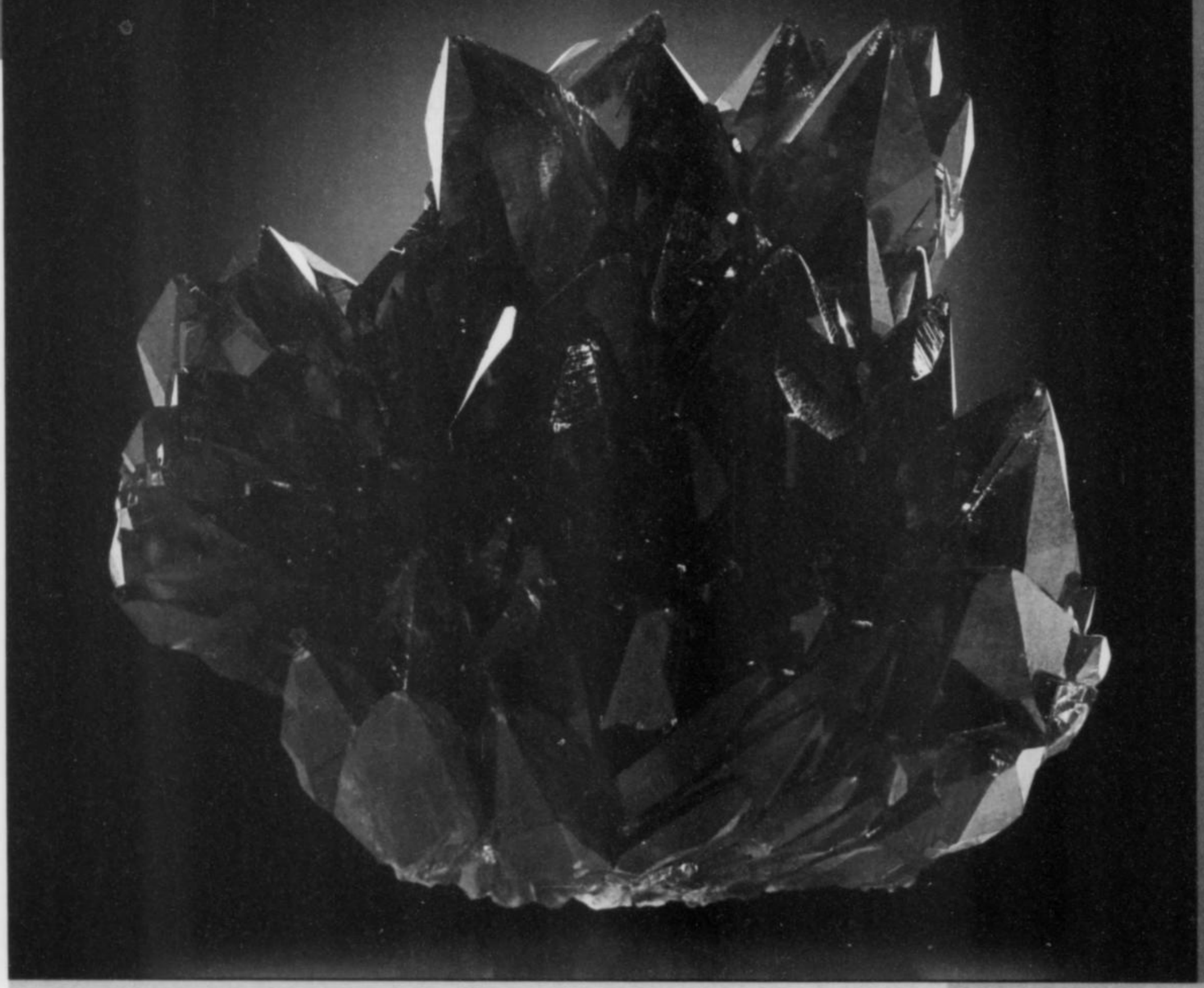

Rhodochrosite, 2¼ inches, N"Chwaning Mine, Cape Prov., South Africa. Ex-collections Steve Smale & Sandor Fuss.

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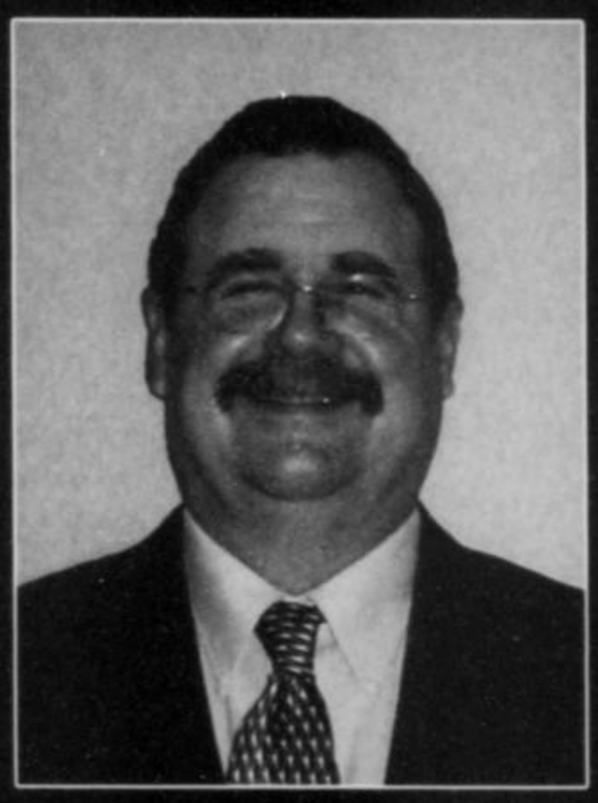

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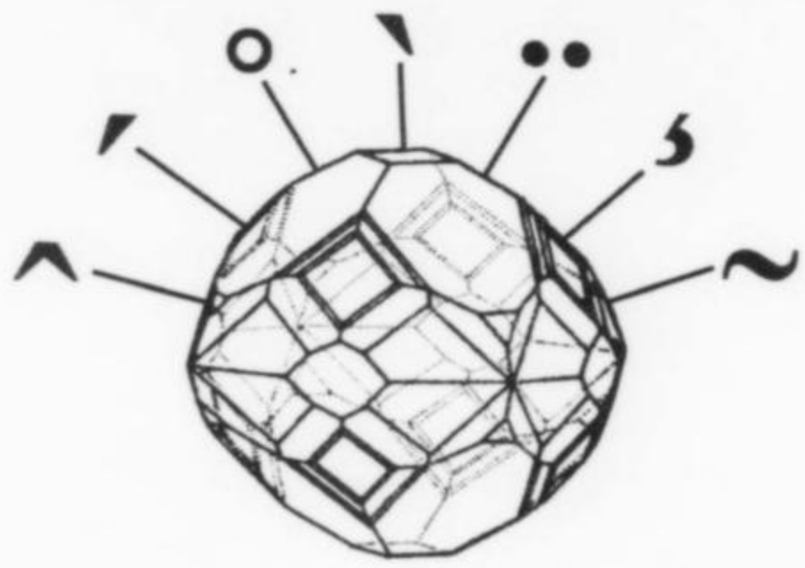

Diacritical Marks in Mineral Names

J.A. Mandarino
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Toronto, Ontario
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At least 168 mineral species names should properly include diacritical marks if they are to conform perfectly with the spelling approved by the Commission on New Minerals and Mineral Names (now the Commission on New Minerals, Nomenclature and Classification) of the International Mineralogical Association.

For several years I have been growing increasingly concerned about the problem of the omission of diacritical marks that should be included in some mineral names. English is one of the few European languages that does not generally require the use of diacritical marks, except for a few borrowed words such as café (the dots on i and j have no significance) and a rarely used dieresis. For this reason, most English-speaking people in North America seem inclined to ignore all diacritical marks in foreign words and names.

The fact is, however, that the official names for minerals are those which were approved by the IMA, and diacritical marks abound among these. Such marks have distinct effects on pronunciation, and are essential parts of the root-names on which the mineral names are based. The IMA does not approve alternate spellings for use in different languages—although the German habit of dropping the final "e" on mineral names ending in "-ite" is implicitly accepted in order to maintain correct pronunciation in that language. Dropping diacritical marks, on the other hand, obscures correct pronunciation.

Yes, it is certainly most convenient to ignore diacritical marks. In the days of manual typewriters there was little alternative. But a wide variety of special characters incorporating diacritical marks are now available in modern word-processor systems, so there is no longer any excuse for avoiding the use of them.

I originally expected that many published mineral names would include diacritical marks but, much to my surprise, a review of the nomenclature has revealed only 168 names with such characters. That is 168 out of the 4,142 species, i.e. just over 4% of the Mineral Kingdom. The 168 names are listed in Table 1.

The diacritical marks that have thus far been utilized in mineral names are as follows:

The *acute*, as in á, ć, é, í, ń, ý
The *grave*, as in à, è
The *umlaut* or *dieresis*, as in ä, ë, ö, ü
The *ring*, as in å
The *caron*, as in č, ě, ň, ž
The *circumflex*, as in ê, ô
The *cedilla*, as in ç
The *tilde*, as in ñ
The *slash*, as in ø

Most of the species names (157) contain only one diacritical mark, ten contain two diacritical marks, and the winner, pääkkönenite, has three diacritical marks. With so few names requiring diacritical marks it should not be a daunting chore to ensure that

all mineral names are spelled correctly. Having said that, I realize that I may have missed some names with special characters and I would welcome receiving such information.

ACKNOWLEDGMENTS

The author thanks Wendell Wilson for making several improvements to this paper.

Table 1. **Mineral names containing diacritical marks.**

Akaganéite	Heyrovskýite	Mantiennéite	Saléeite
Åkermanite	Hiärneite	Maričite	Schäferite
Baričite	Høgtuvaite	Mélonjosephite	Schneiderhönite
Bastnäsite-(Ce)	Hörnesite	Metaköttigite	Schöllhornite
Bastnäsite-(La)	Horváthite-(Y)	Metalodévite	Schröckingerite
Bastnäsite-(Y)	Hübnerite	Metanováčekite	Seinäjokite
Blödite	Hügelite	Metasaléeite	Sérandite
Bøggildite	Huréaulite	Moëloite	Sillénite
Bøgvadite	Hydroxylbastnäsite-(Ce)	Mrázekite	Sjögrenite
Böhmite	Hydroxylbastnäsite-(La)	Mückeite	Slavíkite
Boléite	Hydroxylbastnäsite-(Nd)	Natrodufrénite	Söhngeite
Brüggenite	Hyttsjöite	Népouite	Sørensenite
Bukovskýite	Ilímaussite-(Ce)	Neustädtelite	Součekite
Bütschliite	Jáchymovite	Nežilovite	Stanĕkite
Byströmite	Jaguéite	Nickelblödite	Strätlingite
Čechite	Jankovićite	Nordenskiöldine	Stützite
Čejkaite	Jaskólskiite	Nordströmite	Szymańskiite
Černýite	Jôkokuite	Nováčekite I	Takéuchiite
Cesàrolite	Jørgensenite	Nováčekite II	Tarapacáite
Chabournéite	Joséite	Novákite	Thalénite-(Y)
Chaméanite	Joséite-B	Nyböite	Thérèsemagnanite
Cobaltneustädtelite	Kaňkite	Ordoñezite	Thorbastnäsite
Cumengéite	Karupmøllerite-Ca	Örebroite	Törnebohmite-(Ce)
Daubréeite	Késterite	Ottrélite	Törnebohmite-(La)
Daubréelite	Kolwézite	Pääkkönenite	Trögerite
Diaboléite	Köttigite	Paděraite	Trüstedtite
Dufrénite	Kratochvílite	Parthéite	Tschörtnerite
Dufrénoysite	Kröhnkite	Patrónite	Tučekite
Felsöbányaite	Kupčíkite	Phosphorrösslerite	Ulvöspinel
Ferrohögbomite-2*N*2*S*	Laforêtite	Planchéite	Västmanlandite-(Ce)
Ferrokësterite	Långbanite	Potosíite	Väyrynenite
Fizélyite	Låvenite	Pseudoboléite	Vésigniéite
Fluorthalénite-(Y)	Lévyclaudite	Ranciéite	Viséite
Françoisite-(Nd)	Lindströmite	Rhönite	Wöhlerite
Fülöppite	Löllingite	Rokühnite	Wölsendorfite
Gaspéite	Löweite	Romanèchite	Wülfingite
Görgeyite	Lüneburgite	Roméite	Wüstite
Götzenite	Magnesiohögbomite-2*N*2*S*	Römerite	Zálesíite
Guérinite	Magnesiohögbomite-2*N*3*S*	Röntgenite-(Ce)	Zenzénite
Häggite	Magnesiohögbomite-6*N*6*S*	Rosickýite	Zincohögbomite-2*N*2*S*
Håleniusite-(La)	Mäkinenite	Rosiérésite	Zincohögbomite-2*N*6*S*
Haüyne	Manganese-hörnesite	Rösslerite	Zýkaite

TOTAL = 168

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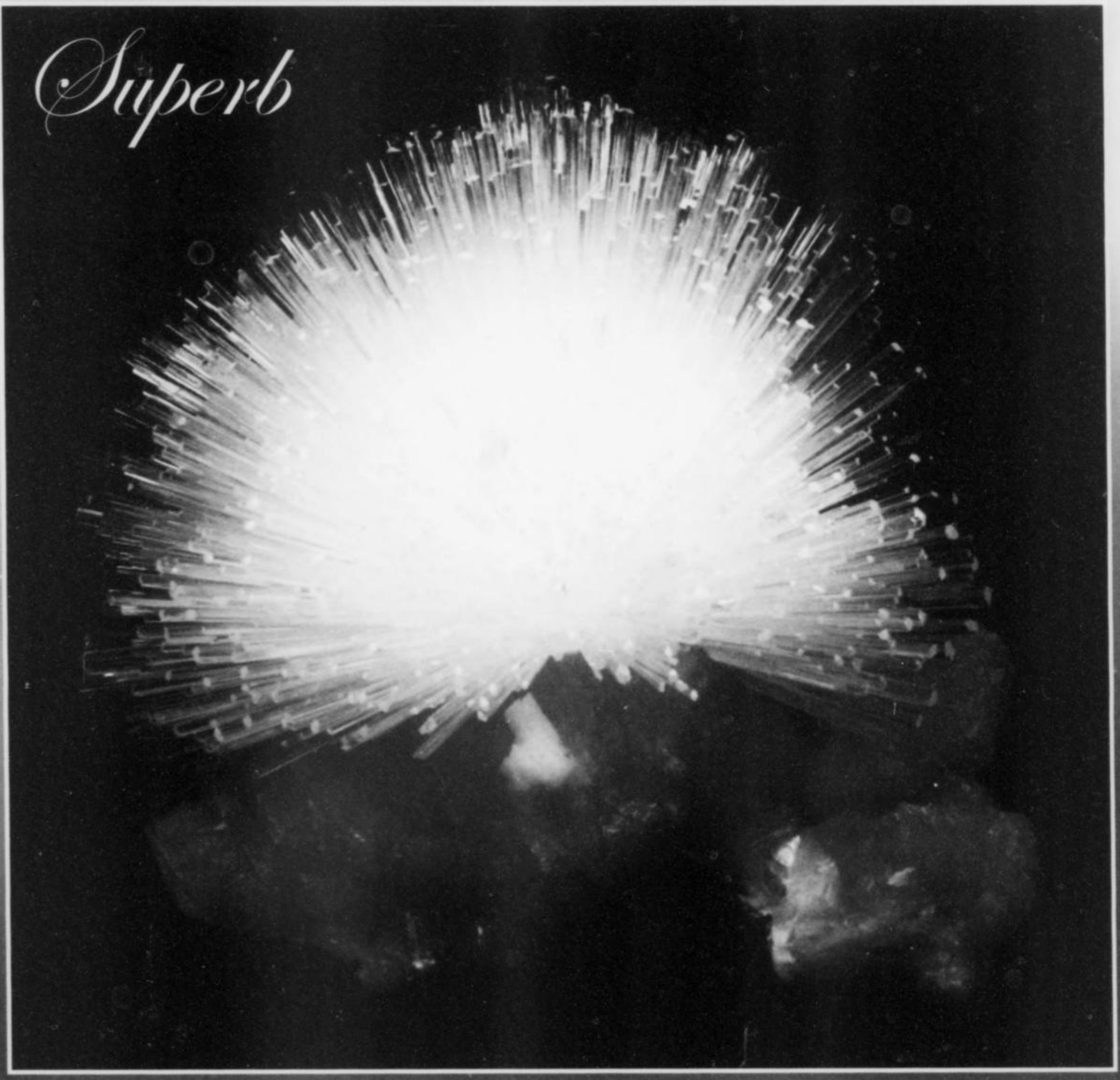

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A Half-Century of Dealing in Minerals

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He jovially described himself in a 1993 ad as: "Mineralogist, bibliophile, gemologist, author, expert, Grolierite, lecturer, Kunzian, Novi Eboracian [=New Yorker], antiquary, numismatist, collector, publisher, appraiser, columnist, entrepreneur, historian, consultant, geologist, and editor"—and justifiably so. After more than 50 years "in the business," Lawrence H. Conklin is today something of an institution in the world of mineral dealing.

Larry Conklin has been a prominent fixture in the mineral world for over half a century, and those who haven't had the pleasure of meeting him over the years have nevertheless heard his name mentioned frequently. Larry is an appreciator not only of quality but of provenance and history in a mineral specimen. Having known many people and spanned many trends and fads in mineral collecting during his five decades as a dealer, he will often have personal information and stories about collectors and dealers now long gone, whom the rest of us think of as lost in the dim past. Larry, because of his many and varied specialties and interests, is himself one of those "interesting people" so rich in memory and intellect that one could easily while away countless hours listening to his stories. Larry seems always to be in a good mood, always positive, always ready to chat, and at 73 just happy to be alive, as we all should be.

Lawrence Henry Conklin, Jr. was born in New York City during the nadir of the Great Depression, on December 28, 1933. His father, Lawrence Sr., was a descendant of John Conklin, who was born in England in 1598, emigrated to Salem, Massachusetts in 1639, and founded the first glassworks in America. Genealogy being one of Larry's special interests, he has learned that the early Conklins (Concklaines) may have been French Huguenot glassmakers who, having suffered religious persecution in France, emigrated to England with many of their compatriots in the 15th century. Going back even farther, they may in fact have originated in Germany where an extensive glass-making industry had long flourished during the Middle Ages. Perhaps the ancestral fascination with colored, transparent glass and the associated aesthetic are at the root of Larry's inborn love of minerals. It makes a nice story anyway.

As a child Larry was a museum addict. While other children struggled mightily to *avoid* field trips and family outings to the purportedly dusty and boring catacombs of the museum world, Larry took himself whenever he could. He visited the Metropolitan Museum of Art, especially the American Wing and the New England period rooms, and developed an interest in art and antiques. In later years he and his wife indulged this interest by purchasing and restoring (and living in) a historic New England residence, the Beardsley House in Kent Hollow, Connecticut. He also frequented the American Museum of Natural History, riding the bus there when he could afford the nickel fare, or making the one-hour walk to the museum when he was broke. The minerals were his principal fascination; he writes:

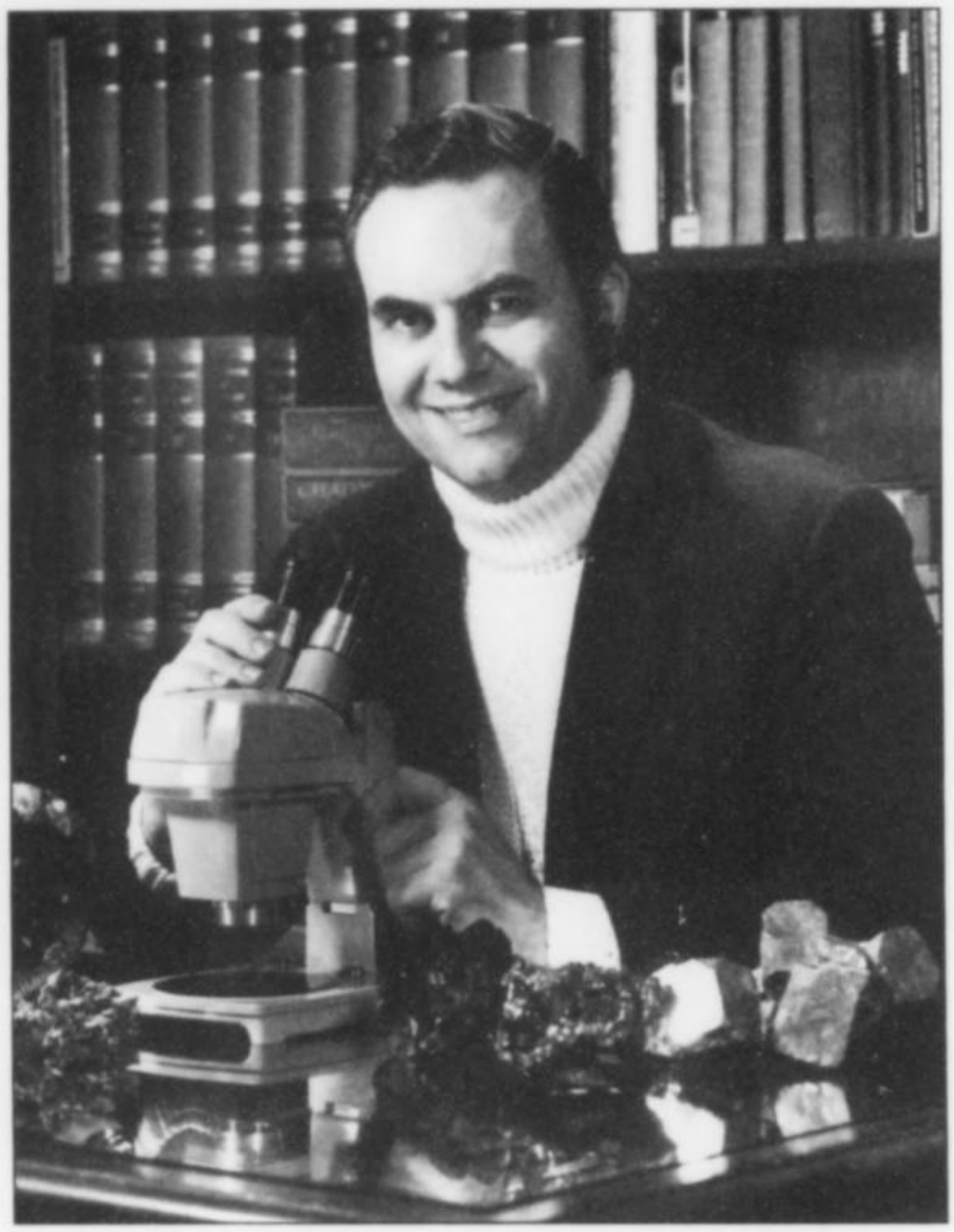


Figure 1. **Lawrence Conklin in his early days as a mineral dealer, ca. 1971; photo by Leo Lances.**

I would find myself walking past the stuffed lions, the elephants and even the dinosaurs to get to the Morgan Memorial Hall of Minerals. The displays were full of wonder for a young boy and he could learn so much from them too! One day I would concentrate on the study of pyrite and, perhaps, another day, on galena (still labeled galenite). If I were studying quartz I could look down on perhaps a hundred or more specimens in one of those old, flat, glass-top cases, lean over and, with my breath hot on the glass, get my nose to within inches of each piece. I could then study them and make comparisons as to varieties, localities, crystallizations, colors, etc., etc., learning much in the process.

This interest in minerals had started at a very early age. When he was only four or five yeas old his uncle, Anthony Schumacher (1894–1965), a mineral collector (whose sophisticated collection was excellent even by today's standards), had given him a small mineral specimen as a Christmas present—it was then taken away from him by his parents "so he wouldn't lose it" and was never seen again. Thus he was accustomed early to the angst of the mineral dealer: to acquire beautiful minerals only to see them soon slip through your fingers and be gone forever!

Amazingly, although it was New York City, one could still field-collect minerals on Manhattan Island in the 1940's. Larry would often take the long bus trip to the northern end of the island where, using a hammer and chisel, he would chop out embedded diopside crystals from the Inwood Marble. Unfortunately this marble had already been slabbed and emplaced as sidewalks there, and the unsympathetic local police frowned on Larry's enthusiastic collecting activity as mere vandalism. There was also the Manhattan Schist, which often contains small garnet crystals, but it crops out mostly in Central Park where mineral collecting is highly illegal. The Manhattan Schist hosts pegmatite veins, and some excellent specimens were once collected there, mostly by B. B. Chamberlain around 1900; Larry managed to collect some, too, from working excavations.

By the time he was 14 years old Larry had assembled a substantial mineral collection, and was in need of a cabinet to house his treasures. His father, by fortunate happenstance, worked for an interior designer and cabinetmaker, L. Alavoine & Company. Larry had been attending Brooklyn Technical High School and studying mechanical drawing (with the intention at that time of becoming an electrical engineer), so he designed his own cabinet, complete with lights, and his father had it built for him. When it was finally delivered he promptly filled it up, and it became the centerpiece of his family's small apartment. Even his uncle Tony was envious. Larry married in 1956 and left home, but his cabinet remained and was always proudly shown off by his father when visitors came.

Like many of us, Larry also exhibited his minerals at science fairs while still in high school, though he didn't win any ribbons. His exhibit was very popular with the crowds attending, but the judges (who favored biology-oriented exhibits) complained that minerals didn't "do anything." Many years later he was told by Dr. Vincent Manson, Curator of Minerals at the American Museum of Natural History, that an innate prejudice against minerals existed at that institution (except, of course, in the earth-science departments) because "they had never been alive." This unfortunate prejudice in the museum world, what I call "bio-chauvinism," still exists today in some major institutions.

When it came time for Larry to enroll at City College of New York, his A average at Brooklyn Tech meant that he was exempt from having to take qualifying tests for the electrical engineering

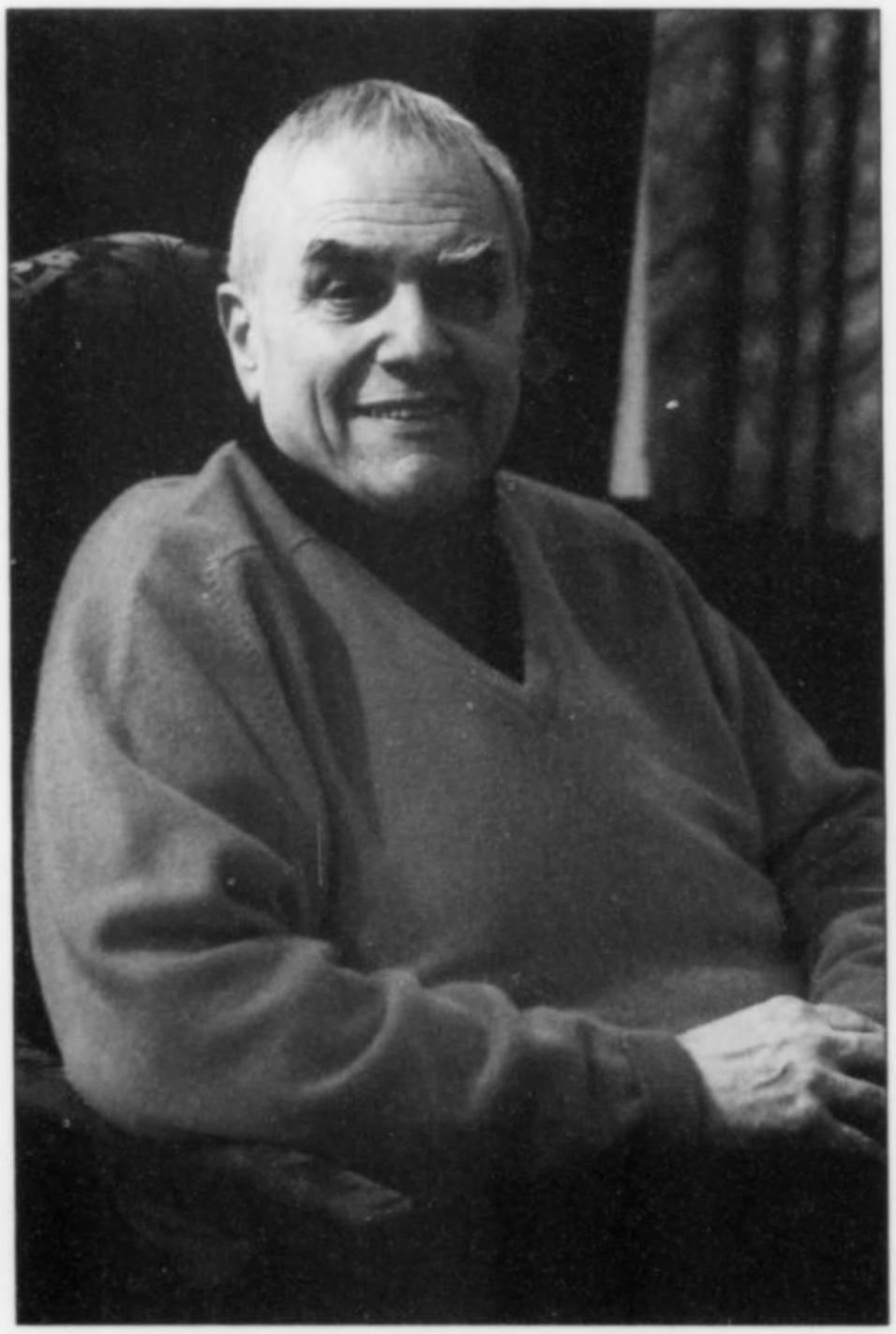


Figure 2. **Lawrence Conklin today.**

Figure 3. **Lawrence Conklin at home with two exhibit cases containing a portion of the Conklin mineral collection. Photo by David Hunter.**

Figure 4. **A closer look at the two exhibit cases. Photos by David Hunter.**

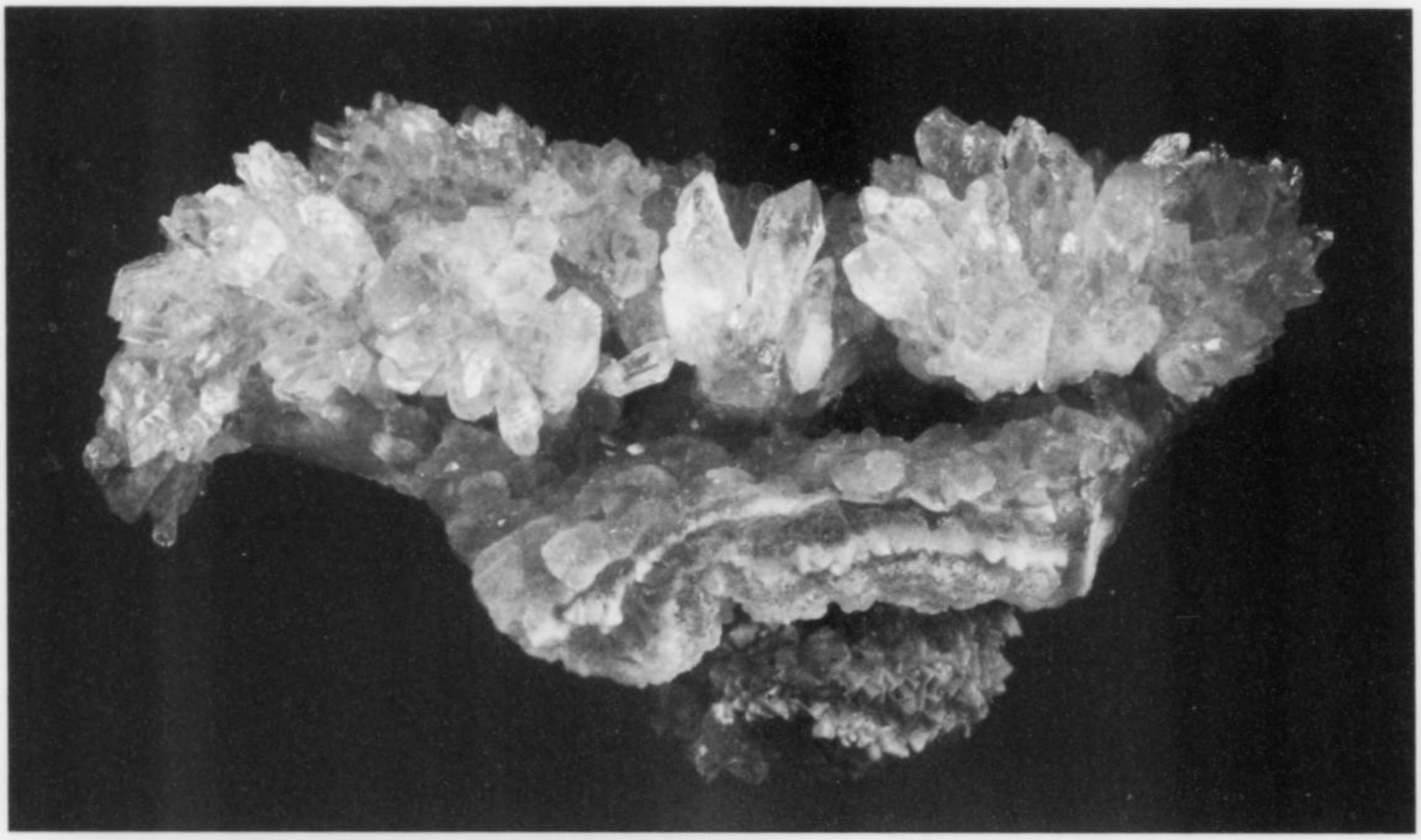


Figure 5. **Rose quartz cluster, 15.2 cm, from the famous 1959 discovery at the Berilo Branco mine, Minas Gerais, Brazil. Conklin collection; Jeff Scovil photo.**

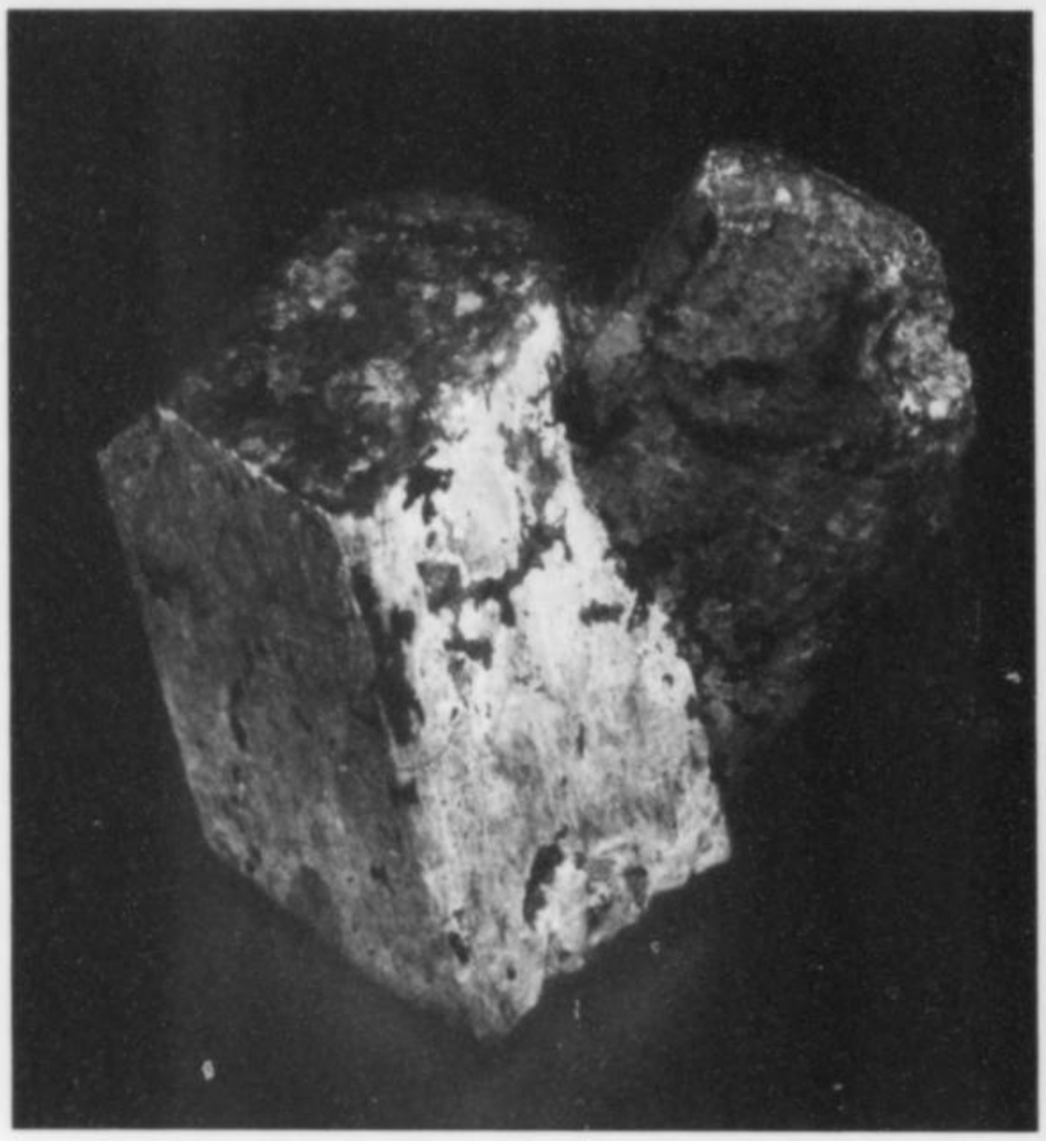


Figure 6. **Spodumene crystal group, 10.2 cm, a very old classic specimen from Huntington, Hampshire County, Massachusetts. Conklin collection; Jeff Scovil photo.**

Figure 7. **Covellite crystal cluster, 6 cm, from the Leonard mine, Butte, Montana. Conklin collection; Jeff Scovil photo.**

major. An upperclassman accompanied him on his first registration for classes, and kept trying to focus him on registering for the necessary engineering classes. Larry, however, was amazed to find that classes in geology, paleontology and even mineralogy were available . . . subjects he had formerly thought were limited to hobbyists. He kept telling his advisor about his collections until the exasperated upperclassman declared: "Well then, why in hell don't you become a geologist?" Good question, thought Larry. And so that's what he did. He changed his major on the spot from Engi-

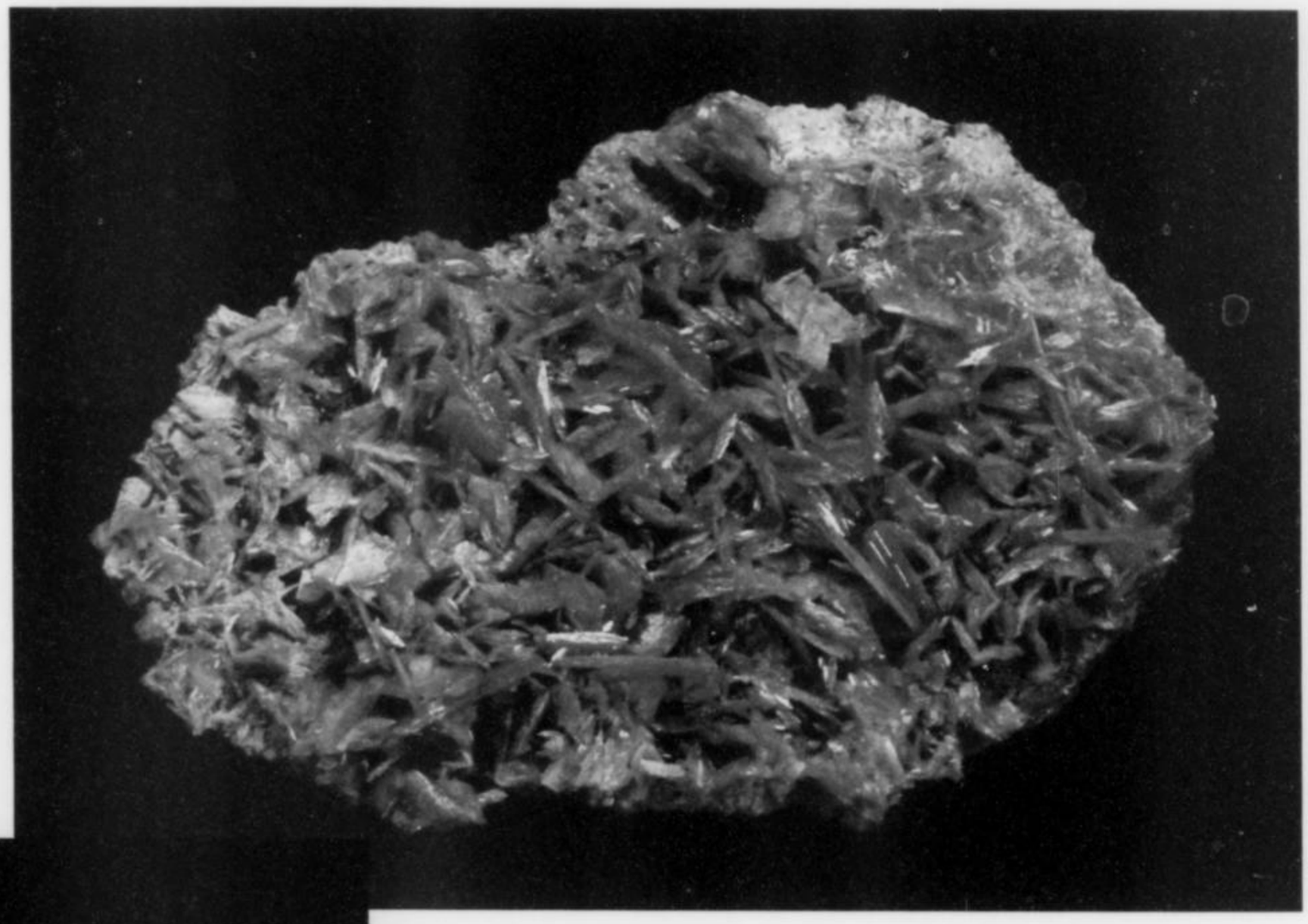


Figure 8. **Rhodonite crystals on matrix, 11.4 cm, from Franklin, Sussex County, New Jersey. Conklin collection; Jeff Scovil photo.**

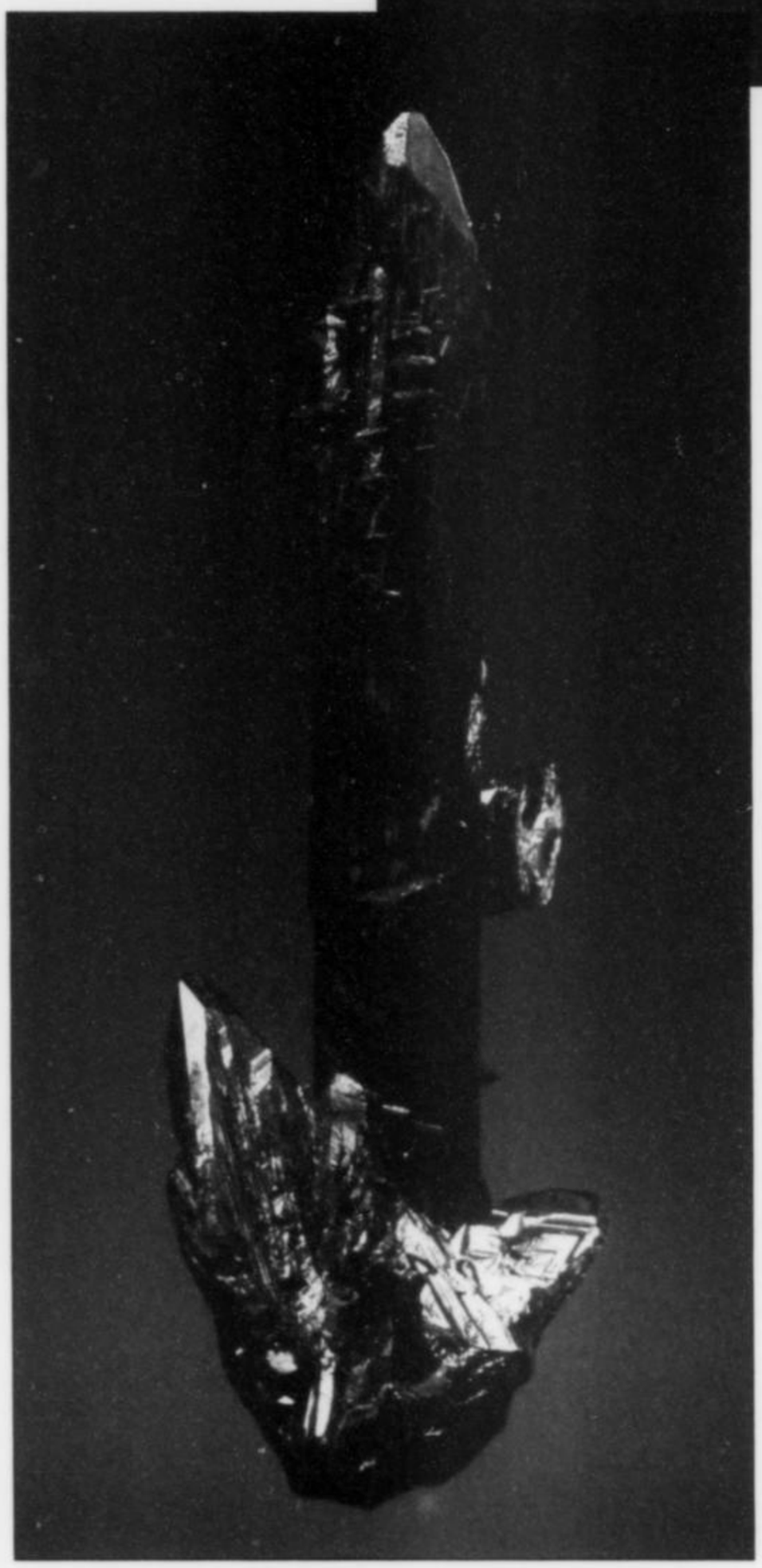


Figure 9. **Proustite crystal cluster, 2.5 cm, from Chañarcillo, Chile. It was purchased for $12 by Robert B. Gage (gageite) from Washington A. Roebling (roeblingite) in 1924, and retains Gage's original label. Conklin collection; Jeff Scovil photo.**

neering to Geology. "These days," says Larry, "I think about that anonymous advisor of 50 years ago and thank him silently."

Larry's mineral collection continued to grow through his college years, and he even exhibited his collection in the Great Hall at City College. One of his geology professors there, Kurt Lowe, once showed him an amazing historical survival that had been deposited there: the original specimens of pink kunzite from chemistry professor Charles Baskerville, who had bestowed upon that variety the name of *kunzite*. Varieties, of course, have no validity in the mineral world, but they do in the gem world, and these were the gemological equivalent of "type specimens." Even more amazing is the fact that many years later these specimens were somehow acquired by the Harvard Mineralogical Museum and then *offered for sale to Larry!*

Larry left college in 1955 with top grades, just a few credits short of a degree in Geology, and immediately joined the ranks of the full-time mineral dealers. He married another mineral collector, Halina Aldona Zychlinski (1934–1997), and they settled in New Canaan, Connecticut (they have two children: Sarah and Charles). He commuted every day to his Manhattan showroom on the train (nowadays he lives in an apartment in Manhattan). From 1955 to 1957 he was associated with Ron Romanella and his Commercial Mineral Corporation at 22 West 48th Street. He then left to form his own company (called Commercial Gem Corporaton of America, even though he sold more minerals than gems) with a partner, Eric A. Engel. Engel had himself formerly been associated with Romanella, as "E & R Trading Company," and had great connections for mineral specimens in Brazil. Taking Larry's place as Romanella's protégé was another young mineral dealer, Herb Obodda.

Larry advertised his Commercial Gem Corporation of America (located at 15 West 47th Street) in *Lapiday Journal* from 1957 to 1959, then split with Engel and thereafter operated under his own name from an office just down the street. His earliest labels thereafter (1960–1964) give his office address as 31 West 47th Street in New York. From there he moved to 576 Fifth Avenue (1964–1967), and finally to 2 West 46th Street in 1969. He shifted much of his operation from his New York office to his home in New Canaan,

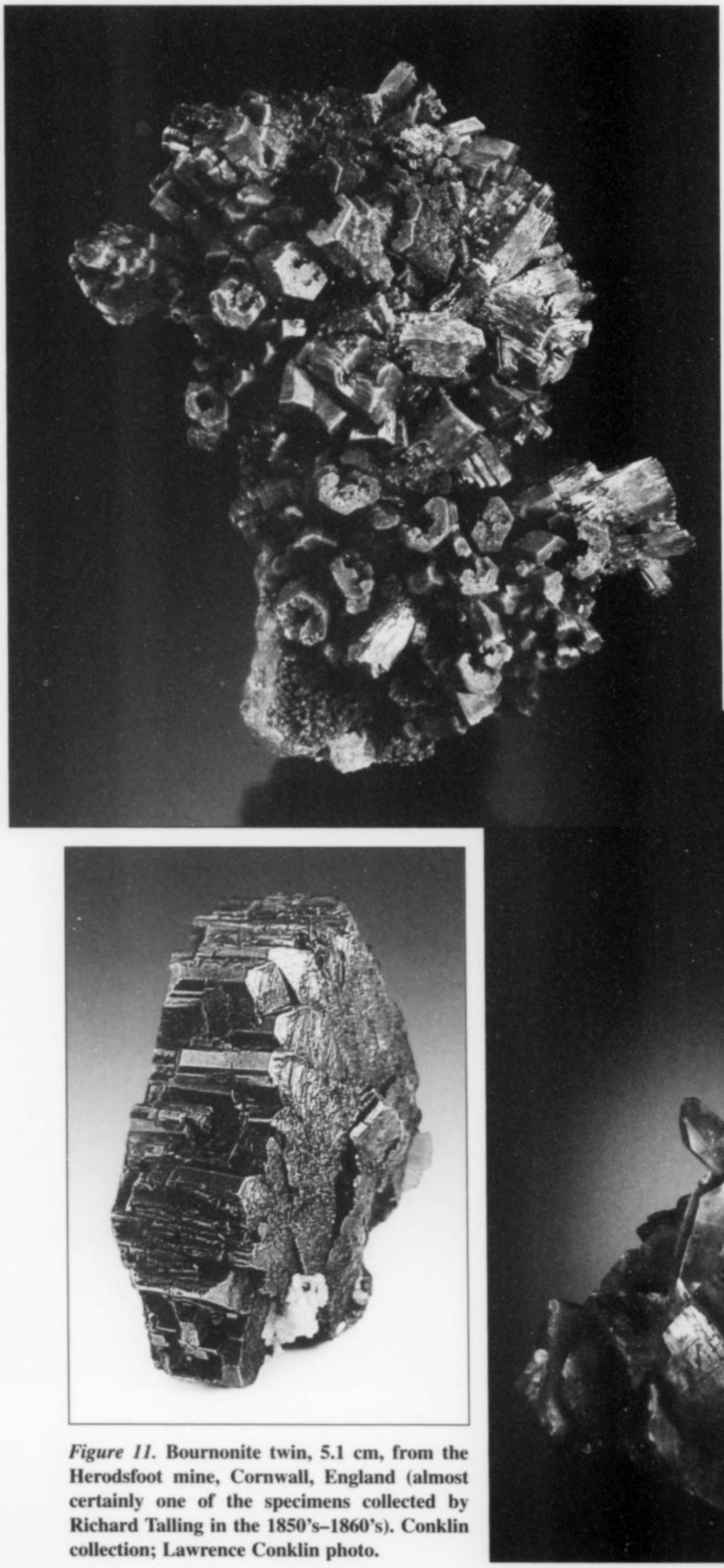


Figure 10. **Pyromorphite crystal cluster with small, red-orange wulfenite crystals on the back, 4.5 cm, from the Wheatley mine, Phoenixville, Pennsylvania. Hugh A. Ford specimen with label; Conklin collection; Jeff Scovil photo.**

Figure 12. **Quartz crystal on siderite crystals, 7.6 cm, from the Morro Velho mine, Nova Lima, Minas Gerais, Brazil. This is specimen #1450 from the Clarence S. Bement collection at the American Museum of Natural History and it survives with an original, typed, museum-display label. It was purchased by Bement from the Parisian mineral dealer Emil Bertrand in 1882. Conklin collection; Jeff Scovil photo.**

Figure 11. **Bournonite twin, 5.1 cm, from the Herodsfoot mine, Cornwall, England (almost certainly one of the specimens collected by Richard Talling in the 1850's–1860's). Conklin collection; Lawrence Conklin photo.**

Figure 13. **Giant pollucite crystal, 5.7 cm, on an 8.3-cm matrix, from the Shigar Valley, Northern Areas, Pakistan. Conklin collection; Jeff Scovil photo.**

Figure 14. **A large (7.3-cm, 230-carat) and rare gem-grade crystal of cordierite from Minas Gerais, Brazil (possibly Coroaci). It was once owned by the Bridgeport, Connecticut yachtsman E. R. Plunkett, who used it to navigate on cloudy days, as was apparently done by the Vikings in ancient times. Conklin collection; Jeff Scovil photo.**

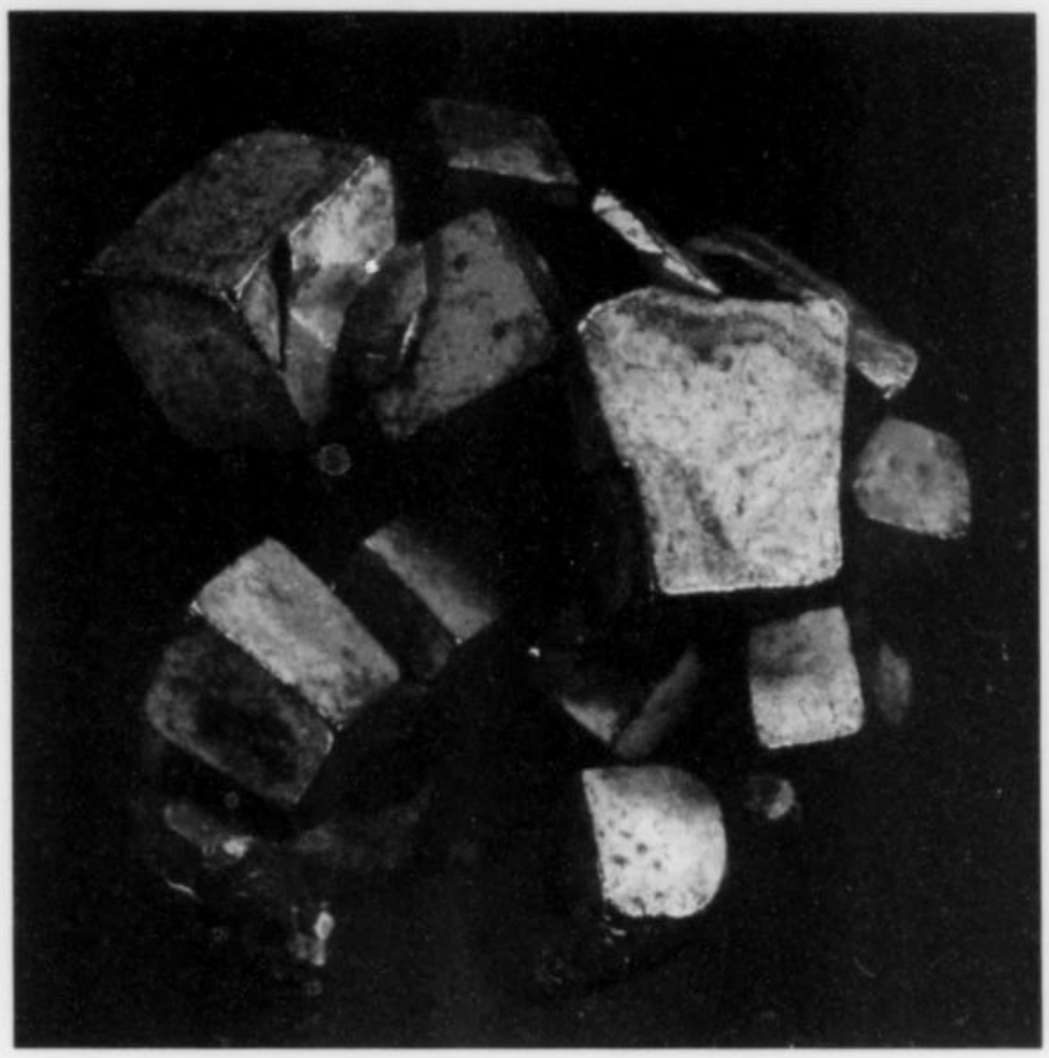


Figure 15. **Cubic copper crystal cluster, 2 cm, from the Keweenaw Peninsula, Michigan. From the personal collection of New York mineral dealer Hugh A. Ford (1885–1966), and later from the collection of Richard A. Bideaux (1935–2004). Conklin collection; Jeff Scovil photo.**

Connecticut in 1976, but retained his New York showroom at 2 West 46th Street, and had a grand re-opening there in 1987; he's been there ever since. Coincidentally, this is exactly the same address that used to be occupied by the mineral and gem dealer Allan Caplan in the 1940's and 1950's.

In 1989 Larry tried something new: he held his first mail-bid auction of mineral specimens. Mineral auctions had been taking place in New York periodically since the 1800's, but for the sake of Larry's widespread clientele he conducted his auction by mail, and it was a satisfying success. He held numerous other auctions over the years, and issued regular lists of specimens for sale to his many mail-order customers (these make interesting reading today).

Over the years Larry has handled the sale of numerous important mineral collections, including those of *Rocks & Minerals* founder Peter Zodac, jade expert Louis Zara, Francon quarry specialist Don Doell, mineral dealer Hugh Ford, dealer-collector Fred Cassirer, Alex Mann, Helen Snider, Doris Biggs, Harold Bucklew, Santiago Wong, Anthony Lizzul and many others. Despite being a man of many and varied interests, he has always resisted the temptation to broaden his stock significantly into other fields such as gemstones or jewelry, prefering to concentrate almost entirely on dealing in high-quality mineral specimens, especially the old "classics." The main exception is rare and antiquarian gem and mineral books,

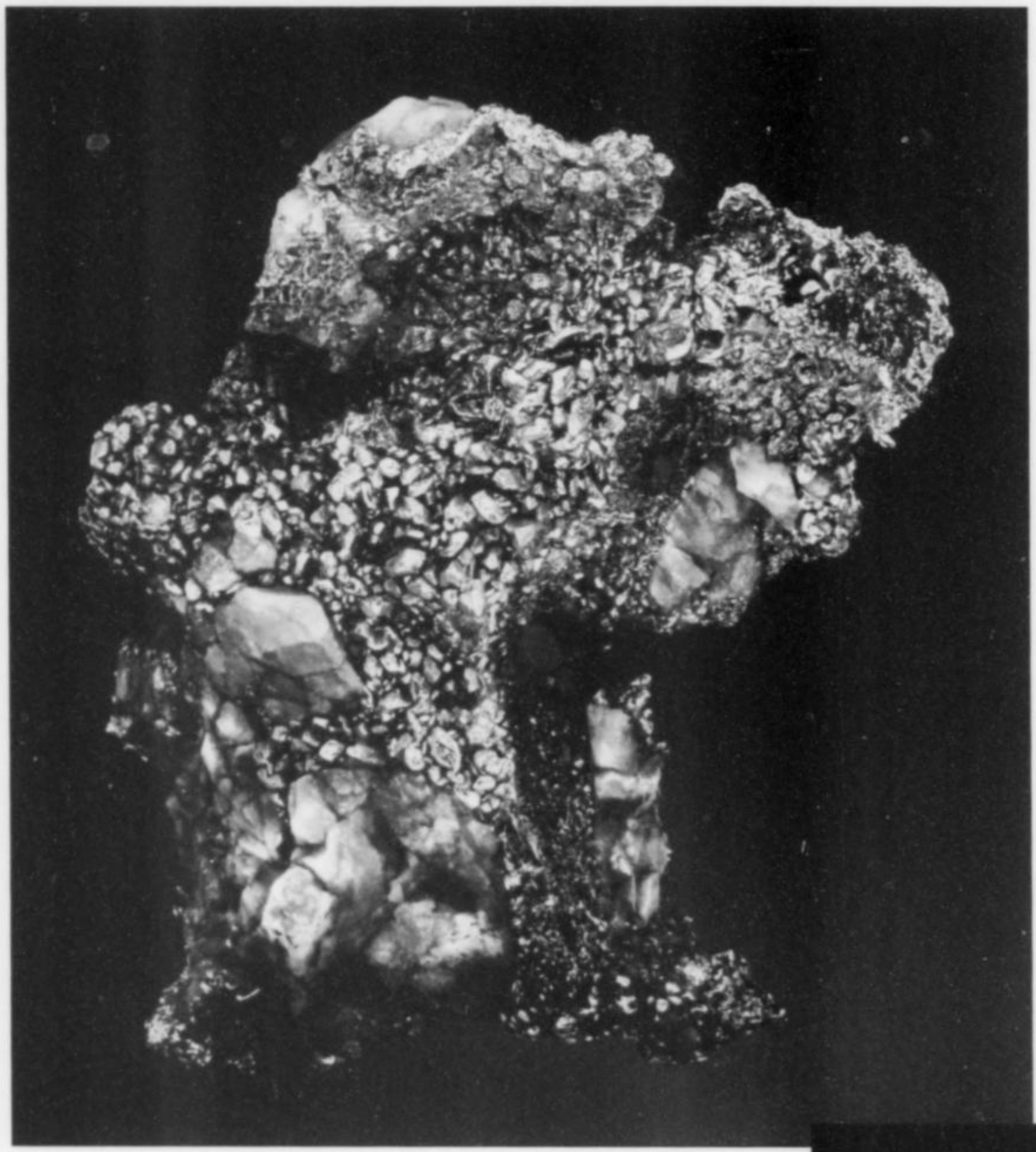
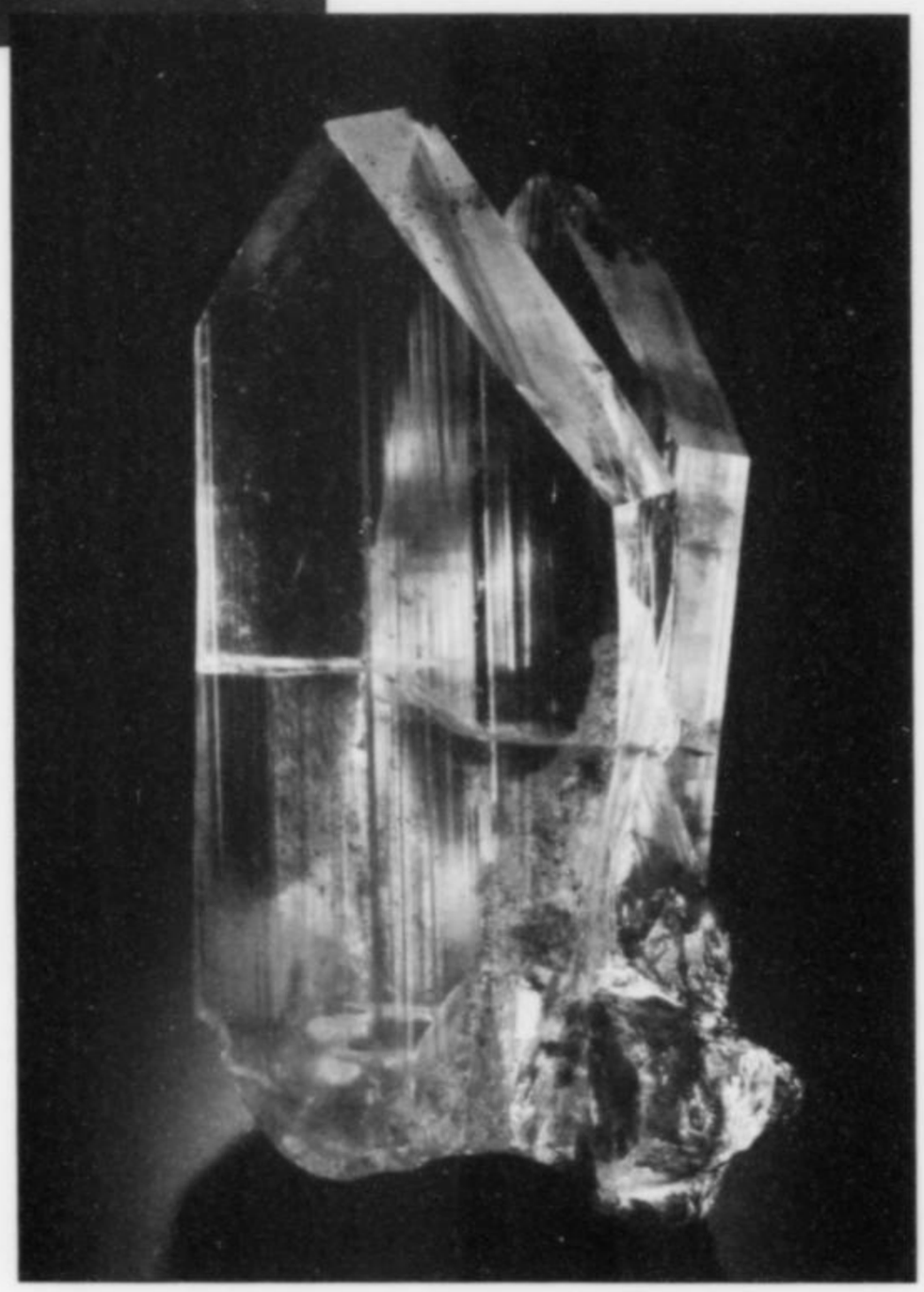


Figure 16. **Gold crystals with milky quartz, 9.5 cm, from the Spanish Dry Diggings near Greenwood, Eldorado County, California; formerly in the American Museum of Natural History collection and the F. John Barlow collection (and is illustrated in Barlow's book). Conklin collection; Jeff Scovil photo.**

Figure 17. **Anglesite crystals, 10.2 cm, from the Touissit mine, Oujda, Morocco. Conklin collection; Jeff Scovil photo.**



which he issued lists for in the 1970's and still dabbles in as the opportunities present themselves. He also has just a few gem carvings currently in his stock. Aside from specimen sales, though, one of his main occupations these days is the appraisal of collections for tax and insurance purposes.

Not one to be left behind by the march of technology, Larry has a large and interesting website (at www.LHConklin.com, established in 1998) to assist with mineral sales, and he has also been selling minerals by online auction through eBay (as "lhc-mineralist"—he has 100% positive feedback). In his earlier days, up to the early 1990's, Larry did many shows, including those in Tucson (at the Desert Inn), Detroit, the Statler-Hilton in New York, Denver, Cincinnati, Franklin and Rochester, plus various shows in Connecticut in the late 1960's and 1970's. But he hasn't sold at shows for many years, preferring instead to stay at home and keep his shop open for that special customer that might stop by for the first time. When he does visit a show (Denver, for example) it is only briefly.

Today, Larry still enjoys his long-time passion of collecting old-time Brazilian eye-agates and Laguna agates. He (along with his children Sarah and Charles) maintains and occasionally adds to the impressive Conklin Family mineral collection, which includes specimens originally collected by his late wife Halina, in his Battery Park City apartment. For many years he also collected old mineral labels, and was among the founders (with Neal Yedlin and Richard Bideaux) of that esoteric hobby. His label collection eventually became part of the Bideaux collection, which in turn

Figure 18. **Acanthite crystals with calcite crystals, 2.9 cm, from Taxco de Alarcon, Guerrero, Mexico. The specimen was a gift from José Luis Encisco, Consul of Mexico, in 1977. Conklin collection; Jeff Scovil photo.**

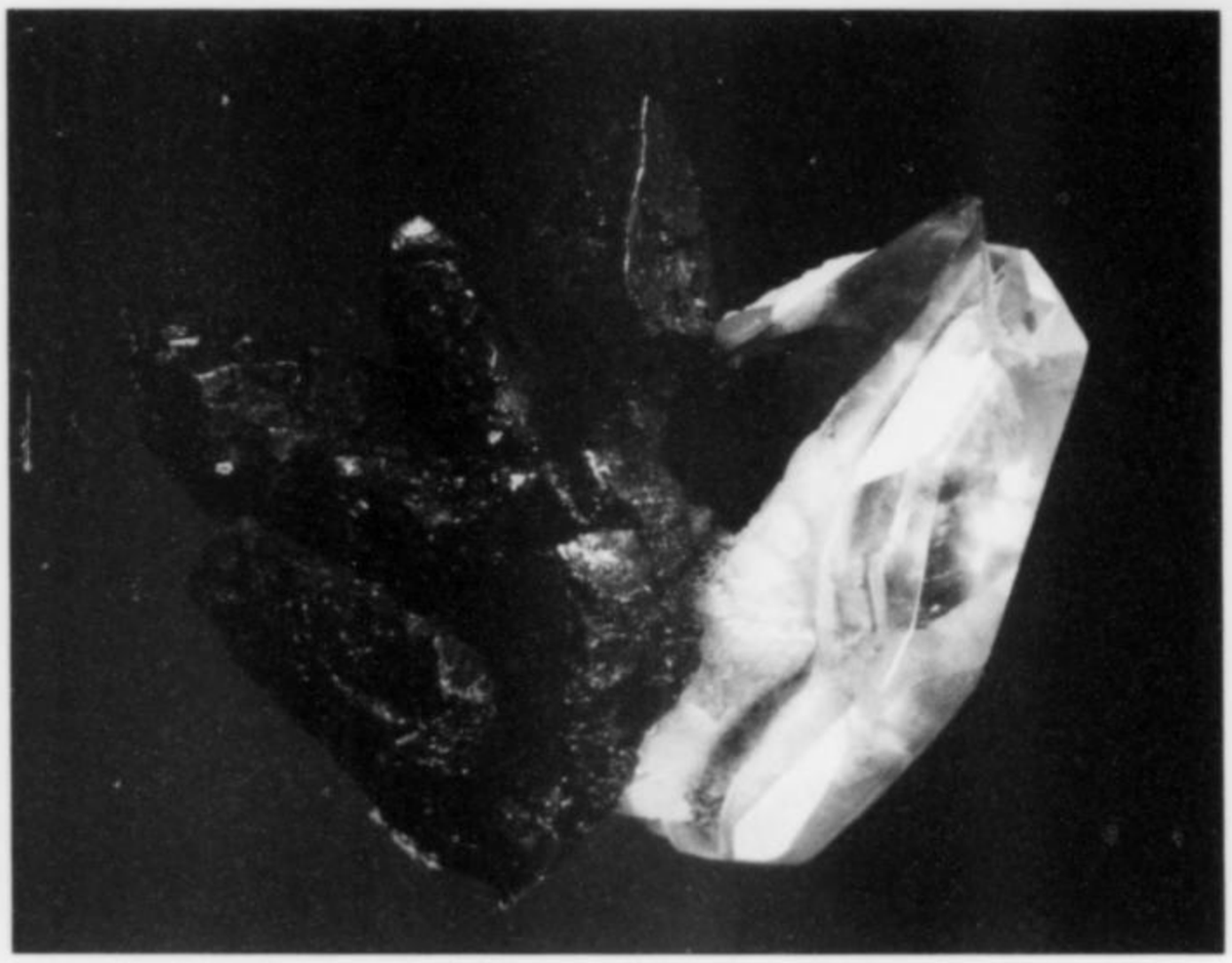


Figure 19. **Scapolite crystals on hornblende, 7.6 cm, from the Finlay farm, Pierrepont, New York. It was collected in the 1850's and acquired by John C. Trautwein, who sold it to Philadelphia mineral dealer A. E. Foote. Clarence Bement then purchased it from Foote in 1898 for $4.60; it later went with Bement's collection to the American Museum of Natural History (catalog number 11089). Conklin collection; Jeff Scovil photo.**

was bequeathed to *The Mineralogical Record*. His other interests have included ancient coins; early American copper state-coinage; historic prints of New York City before 1800; early books about New York City; ancient art and artifacts (he and his wife once owned an authentic Jivaro-tribe shrunken-head); early American bookplates; books written and/or published by William Loring Andrews (1837–1922); American antique furniture and accessories; brass candlesticks from the fifteenth to seventeenth centuries; and English delftware.

Being a student of the history of mineralogy and mineral collecting, Larry has always enjoyed reading and writing on the subject. He was particularly pleased in 1985 to acquire a substantial stash of old letters, which led to the publication in 1986 of his book, *Notes and Commentaries on Letters to George F. Kunz*. In 1988 he founded, with partner Jay Lininger, a publication called *Matrix*, "a journal of the history of minerals." They published it together until 1994, when Jay took over sole management (it ceased publication with Jay's death in 2004).

Larry was a regular contributor to *Matrix*, and also wrote occasional columns for *The Mineralogical Record*—"Historical Notes on Mineralogy" and "Mineral Stories." He has also written numerous articles for *The Mineralogical Record*, including "Anatomy of a mineral sale: the Dohrmann collection" (1992), "Charles W. A. Herrmann (1801–1898), mineralogist and mineral dealer" (1994), "Collecting mineral books: an introduction" (1995), "James Sowerby, his publications and collections" (1995), and "Kingsbridge, an early quarrying district on Manhattan Island" (1997).

What does Larry consider to be his proudest moment in a lifetime of mineral wheeling and dealing? It involves what he considers to be the finest single mineral specimen in the world: the "Newmont Azurite," a cluster of huge crystals a foot square. It was found by a miner at the Tsumeb mine in Namibia in 1952, and was used to pay his bar bill at a local tavern. There it sat proudly on display until Tsumeb Mine Director Charles E. Stott (after whom stottite was named in 1958) demanded it back on behalf of the mining company, Newmont Mining. Eventually the specimen made its way to Newmont headquarters in New York, and company officials began to think about placing it in an appropriate museum. Smithsonian curator Paul Desautels was contacted in 1976 and was eager to acquire the specimen for the National Museum. However, since Newmont

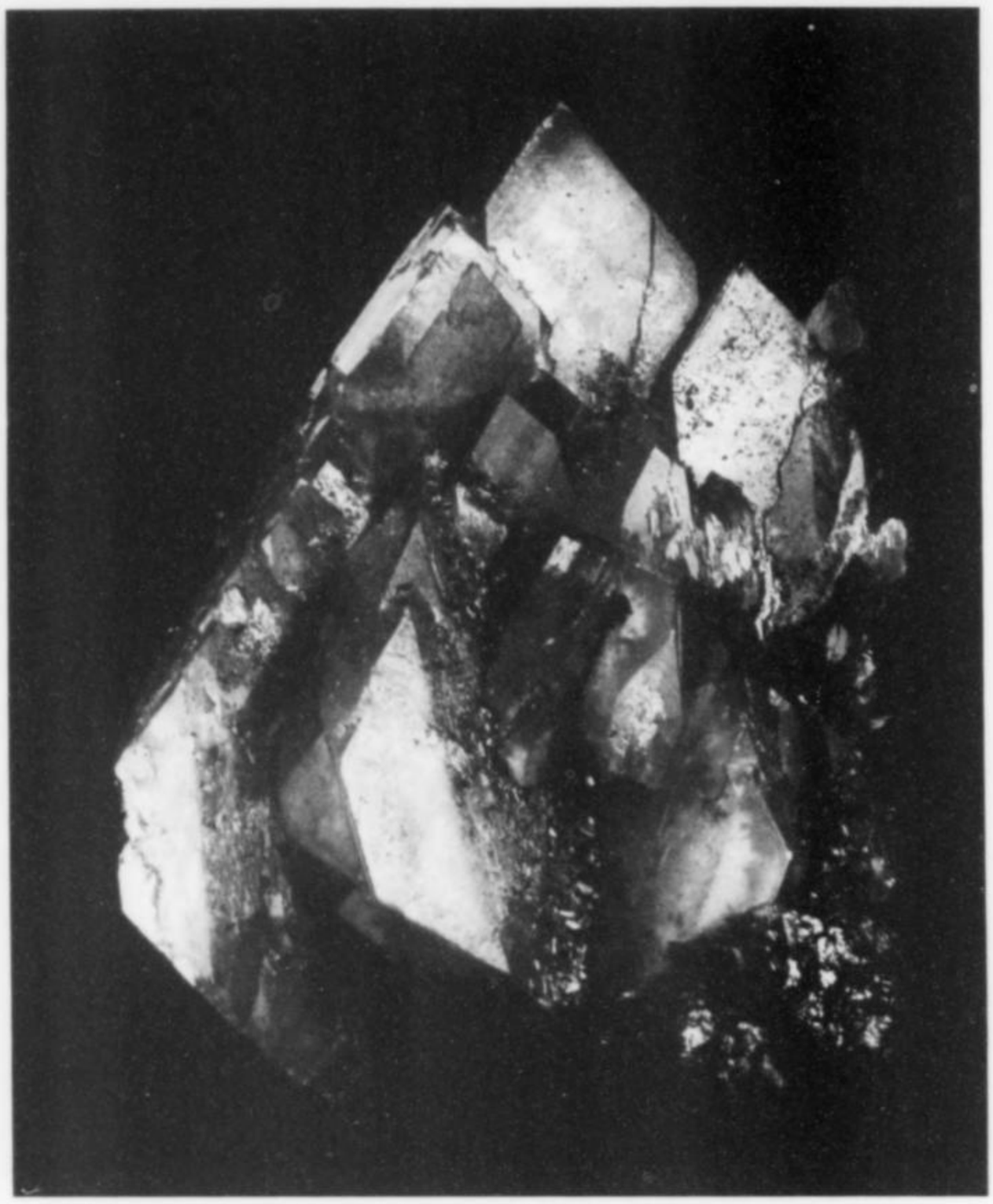


Figure 20. **Blue barite crystals with reddish hematite inclusions on specular hematite, 15.2 cm, from Frizington, Cumbria, England. Conklin collection; Jeff Scovil photo.**

planned to donate the specimen, they needed an appraisal first, and Larry was summoned for the task, which he duly fulfilled—for a substantial fee. Larry, however, is a native son of New York and was anguished to learn that the specimen was destined to be transferred to Washington, DC. He begged Newmont officials to donate the specimen to the American Museum of Natural History in New York instead, but they felt that it was most logical to present what could be the world's finest mineral specimen (which Larry had appraised at $250,000) to the National Museum. In desperation, Larry played his only card: he offered to *waive his appraisal fee* if they would give the specimen to the American Museum—and if they would also include in the gift the specimen known as the "Newmont Gold," a gorgeous 18-cm cluster of flattened gold octahedrons. The cash savings turned their heads, and the specimens went to the American Museum where they are on display today.

Larry suffered a health crisis in 1993, when he developed blood clots in his right leg, and then contracted a near-fatal hospital-acquired staph infection. He recovered, losing over 100 pounds in the process, and today at 73 he looks healthy and positively dapper. He gets up in the morning and cannot wait to get to his office-showroom, located 3 miles from the former site of the World Trade Center. Larry loves his work and wouldn't even think of retiring; he would rather be in his showroom, chatting with collectors and curators, than just about any other place on earth. In 1983 the newsletter publication *Bottom Line/Personal* called Larry "The world's foremost dealer in mineral specimens for the collector." He laughs about the hyperbole, preferring instead to call himself "one of West 46th Street's leading dealers in mineral specimens." In any case, such rankings are unimportant to him. He is pleased and happy with a life well-spent on what he loves.

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Who We Are

The Friends of Mineralogy (FM), formed at Tucson, Arizona on February 13, 1970, operates on a national level and also through regional chapters. It is open to membership by all. FM's objectives are to promote, support, protect and expand the collection of mineral specimens and to further the recognition of the scientific, economic and aesthetic value of minerals and collecting mineral specimens.

Among its activities it sponsors awards for the best articles each calendar year in *The Mineralogical Record, Rocks & Minerals, and extraLapis English* publications and gives special recognition at the February Tucson Gem and Mineral Show for exhibits which help explain an aspect of mineralogy. FM also co-sponsors a **free symposium** during the annual Tucson Gem and Mineral Show.

Friends of Mineralogy 2007 Awards

Best Article 2006, *The Mineralogical Record,*
Bruce Cairncross and Uli Bahmann: Famous Mineral Localities: The Erongo Mountains, Namibia (v. 37, n. 5, p. 361-470).

Best Article 2006, *Rocks & Minerals,*
Mark Mauthner and Carl Francis: Gold Crystal Localities of British Columbia, Canada (v. 81, n. 1, p. 14-22).

Best Article 2006, *extraLapis English,*
(Werner Lieber Award), Ross Lillie: The Great Southern Illinois Fluorspar Deposits, Fluorite—The Collector's Choice.

Best Educational Case, TGMS, 2007—Individual,
Dr. Georg Gebhard: "From the Blue into the Green," illustrating how Michelangelo's turned from blue to green because of the alteration of azurite to malachite.

Best Educational Case, TGMS, 2007—Institutional, California State Mining and Mineral Museum, California State Parks, Curator, Peggy Ronning, "Placer Mining," illustrations and information on placer mining techniques and minerals.

In conjunction with the Best Article awards, FM presented a check for $200 to each of the magazines, *Rocks & Minerals, The Mineralogical Record, and extraLapis English.*

Visit the national FM website for FM Regional Chapters information and FM membership information and application form.

What's New in Minerals

Tucson Show 2007 — by Thomas Moore

[January 27–February 11]

When the Tucson Gem & Mineral Society staged its first Tucson show in early February 1955, there was only what is now known as the "Main Show" for visitors to look forward to. Gradually, over the years, the larger Tucson Phenomenon has evolved, as a gallimaufry* of satellite shows and events has grown up all around town, particularly on the west side. Thus monotony has been prevented and variety spawned. Every year there's something different about the hotel shows and other highlights surrounding the central event (now the climax of the entire commotion) at the Tucson Convention Center. Regular pilgrims will also mark personal switchpoints: I for example have been making it to the show since 1992, but 2007 was the first year in which both of my non-mineralogical children (now non-mineralogical young adults) were present at showtime. One hectic day, I was able to give them a general tour which I *think* they enjoyed, though it's hard sometimes to interpret ironic eye-rolling and mock-jocular commentary.

For the *Mineralogical Record* this was a year of change in hotel-show logistics: Mary Lynn Michela, our Circulation Manager, and her helpers were to be found at a table, not in the lobby of the Clarion hotel as previously, but in Wayne Thompson's room at the Westward Look Show. The table-space here was constricted, but Wayne's display cases full of big, gorgeous specimens hedged in the table spectacularly, and the room was constantly full of high-energy people, while Mary Lynn sold, and Wayne autographed, many copies of his *Ikons* book (subscribers received their softcover copies free with the Jan.–Feb. 2007 issue; the hardcover copies were selling briskly at $150). In this propitious spot Mary Lynn signed up a good number of new subscribers to our magazine, while I, for my part, helped introduce a bright child to the world of mineral dealing. Wayne's six-year-old daughter Stevia, accompanied by about fifty thousand stuffed animals and by several caregivers who entertained her while Wayne did business, put out a flat of thumbnail specimens of her very own, which Wayne encouraged her to try to sell at low prices of his suggestion. One of the specimens was a superb ilmenite "rose" from Pakistan, which I coveted. So while Wayne dealt with seriously well-funded grownups, Stevia dealt with me, and her first commercial transaction came to pass. Picking up that fine ilmenite from a supremely cute six-year-old was one of the highlights of *my* show.

Marty Zinn's Arizona Mineral & Fossil Show again shuffled its venues. Most of the (primarily) Russian, Chinese, Pakistani, Indian and Brazilian dealers who during the previous two years were to be found at the Smuggler's Inn had set up this year at a new hotel, the Quality Inn, Benson Highway, just off I-10 about four miles south of the InnSuites. Furthermore this was the final year of the show's residence in the Clarion hotel, downtown near Randolph Park, whose dealers presumably will be distributed next year among the other hotels, including the new Quality Inn. The InnSuites, with its seductive, orange tree-graced courtyard and its strategic location near the Convention Center, continued this year its development into the hub of the Zinn operation, with a greater proportion of high-end dealers than previously. And in Zinnland there was also the Ramada Hotel, primarily for fossil shoppers, and there was the likable little tent city, off Oracle near the Executive Inn, called the Mineral & Fossil Marketplace, for wholesalers and the bargain-minded.

Besides mentioning minerals seen in these hotels and at the Westward Look and "Main" shows, this report also will describe a thing or two seen at the small show at the Executive Inn, which ceased being a Zinn fiefdom after 2004. What always amazes me about the Tucson Phenomenon is that, like some benign fungus expanding endlessly under the wide forest floor, it is everywhere, including places one has not seen or guessed at. A full week before the hotel show began, for example, Ernesto Ossola was happily doing business in an unassuming complex of little rooms in a stockade-like concrete warehouse off I-10, well to the south of the familiar row of big show-hosting hotels; I hadn't known that this venue existed. Days later the kaleidoscopic action commenced at the major hotel shows along the freeway, as doubtless at show sites I've never yet been to, such as Tucson Electric Park and many a "marketplace" elsewhere in town, and lapidary and bead scenes and crystal-healing-happening vortexes all over this wide valley—nearly 50 individual shows all together! Maybe *next* year one will get around more . . . could the Great Unexpected Specimen be repining uncared-for in some least-likely place? Very likely!

In the "what's new in minerals" department this show continued the past two or three years' trend of there being, in hard fact, quite little that's *strictly* new coming up on the market. But the show felt strong nevertheless, thanks to the plenitude of new specimen strikes at localities already known, renaissances of specimens from occurrences thought extinct, and new records set for quality and/or abundance at occurrences discovered, say, five or fewer years ago. For exciting examples, see below under California and Venezuela gold; California ferro-axinite; Thetford Mines, Quebec andradite; Ojuela mine, Mexico mimetite and hemimorphite; Peruvian rhodonite; Madagascar liddicoatite; Kazakhstan copper; Pakistan anatase and brookite; and many more.

Our embarkation point for the world tour is (oh boy) the Gold Country of California . . .

John Emmett is a road-building contractor from Clovis, California who in 1994 became part-owner of the famous Colorado Quartz mine, Mariposa County, and began extracting specimen **gold** (he helped Bryan Lees in taking out the great "Dragon" gold specimen now familiar from images seen everywhere). In 1996 he

**Ed-in-Chief note:* Yes, I had to grab for the dictionary on this one too.

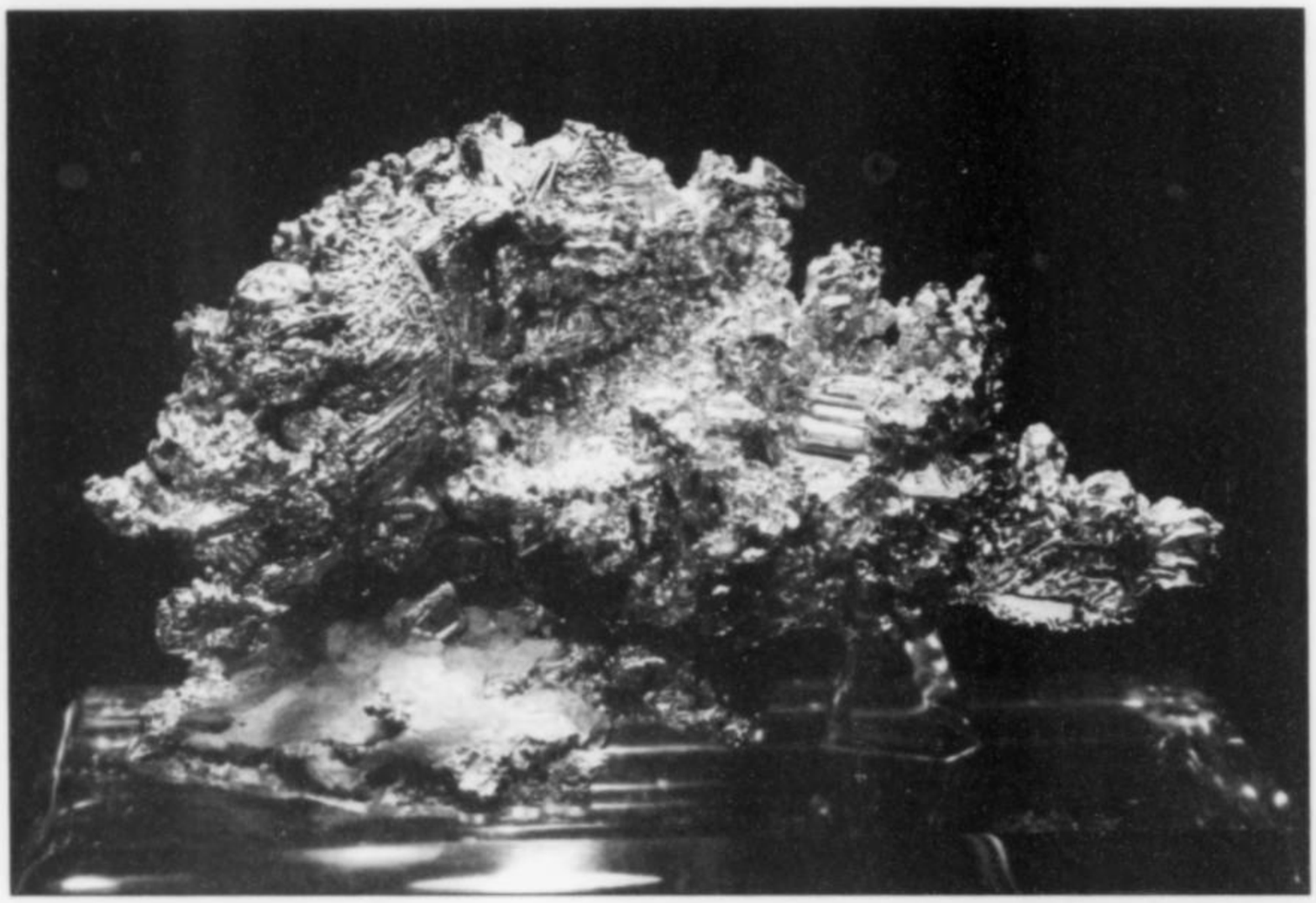
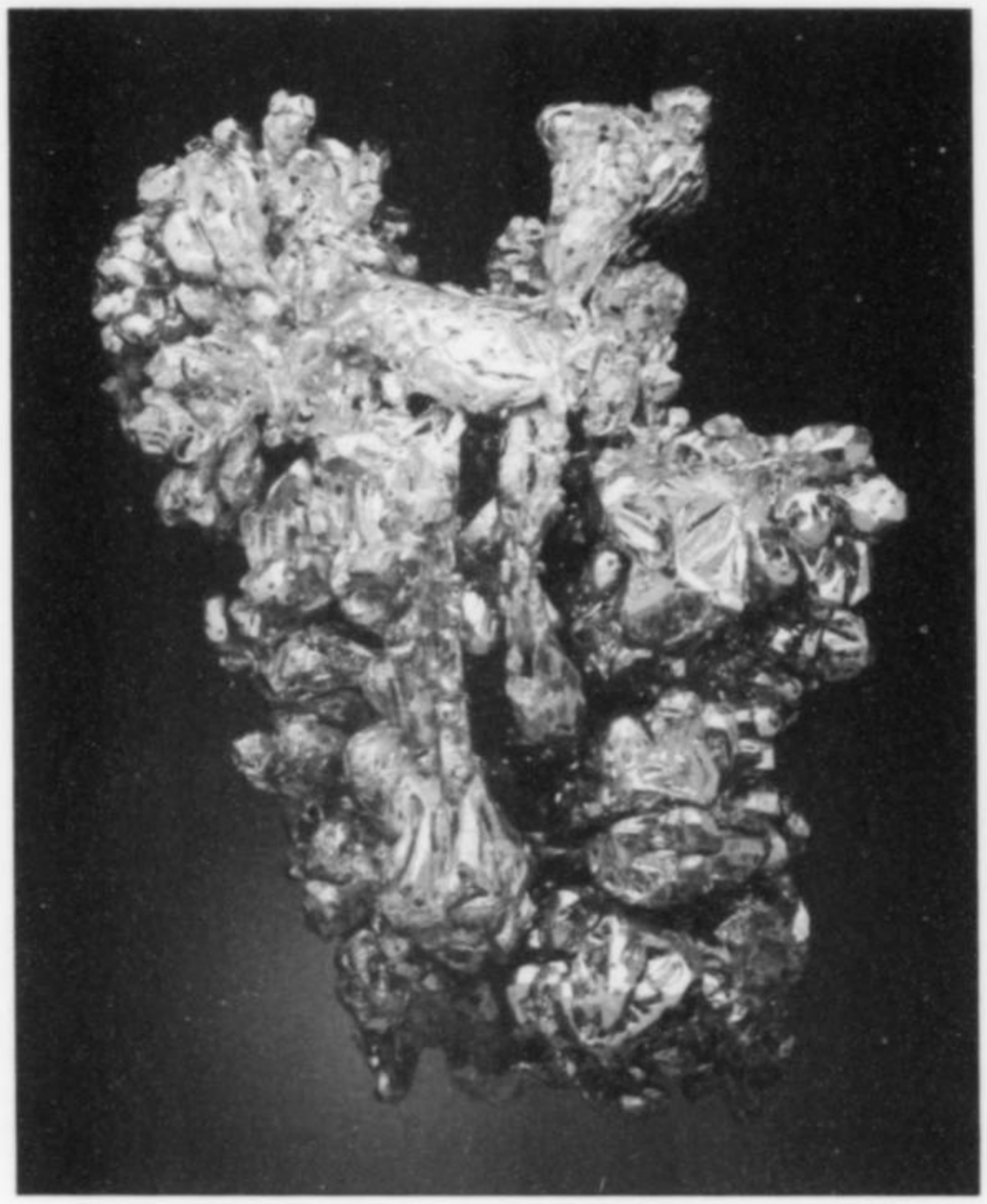


Figure 1. **Gold crystal cluster, 11.7 cm, from the Mockingbird mine, Mariposa County, California. Collector's Edge Minerals specimen; Wendell Wilson photo.**

Figure 2. **Gold crystal cluster, 5.9 cm, from the Mockingbird mine, Mariposa County, California. Collector's Edge Minerals specimen; Jeff Scovil photo.**

purchased and began working the Mockingbird mine, on the same vein structure as the Colorado Quartz, and the 2006 Denver Show saw the appearance of a few fine gold crystal specimens he had dug there. These, though, were the merest hints of what John Emmett and co-owner Noble Sparks had already taken, in April 2006, from the third level of the Mockingbird mine, about 30 meters below the ground surface. In this zone, a seam of clay up to 25 cm wide follows a fold in a dike, and masses of crystallized gold weighing up to two pounds, associated with milky quartz and arsenopyrite and covered by earthy greenish fluorite, were found in a string of pockets. Twenty-six specimens from the find, of which about ten are thumbnails and the remainder are amazing miniature and small cabinet-size specimens, were debuted by *Collector's Edge* at the Main Show. The habit of some of the gold is dendritic to arborescent; some arborescent groups have rounded gold tetrahexahedrons to 2 mm resting on the tips of the "branches." Other specimens are clusters of sharp, deeply hoppered gold octahedrons to 1 cm; others are dominated by wire gold; still others show sponge gold as "matrix" for crystal groups; a couple of exceptional pieces have distorted dodecahedral gold crystals to 2 cm resting on quartz. On a very few specimens, gold crystals rest on arsenopyrite crystals. The gold in all of these specimens is a rich yellow, and all of it boasts exceptionally brilliant luster. According to Bryan Lees, the connected string of pockets in this "specimen mine" is now exhausted, but meanwhile the pieces shown at Tucson this year surely represent the greatest find of California gold in many a year, and, no question, the Mockingbird mine spread was the hit of the Main Show. All of the big specimens were in the "price on request" category, and were sold before you had time to ask, disappointing many eager would-be buyers.



World-class specimens of **ferro-axinite** were found at New Melones Lake, Calaveras County, California, in 1981, and after a very short time they largely disappeared from the market. Beautiful, transparent, clove-brown ferro-axinite crystals exceptionally to 10 cm dominate an Alpine-type mineral assemblage found in tension gashes in volcanic and metamorphic rocks along the lake's spillway—see the article by Pohl *et al.* in the September–October 1982 issue. Around the turn of 2006–2007, John Seibel of *Seibel Minerals* (JohnSeibel@hotmail.com) took a crack at this "dead" locality and, with his fine field-collecting skills and maybe a bit of luck, managed to take out another 250 ferro-axinite specimens, most of which were for sale in his room at the InnSuites in Tucson. Highly lustrous, partgemmy, classically ax-shaped, medium-brown ferro-axinite crystals to 5 cm form groups with colorless, transparent quartz prisms, the latter reaching 10 cm. Some specimens show ferro-axinite crystals wholly included in quartz. These handsome specimens range from about 4 cm up to hefty cabinet sizes, and the centerpiece of John's array was a wonderful piece 45 cm across. Mid-size specimens from the find could be had for low three-figure prices.

Still in California, we come to a really *new* find which may turn out to be this show's most promising—but is indeed so new that full details concerning it cannot as yet be disclosed. During the hotel

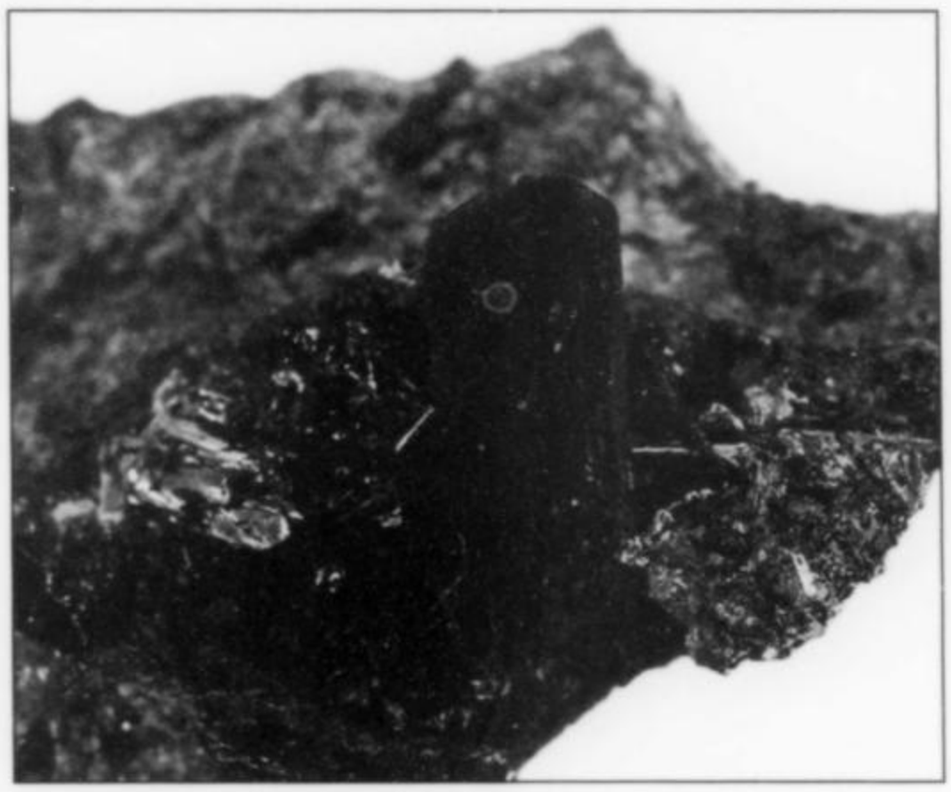


Figure 3. **Linarite crystal, 1.5 cm, from the Reward mine near Baker, California. Rob Lavinsky specimen, now in the James and Gail Spann collection; Rob Lavinsky photo.**

show period, word came that two California field collectors, Keith Wentz and Seth Dilles, had just struck superlative specimens of **linarite** and **caledonite** in quartz veins in a weathered gray schist near or in the old Reward mine in southern California, not too far from the old Blue Bell mine near Baker, where nice specimens of these two rare and colorful Pb-Cu sulfates were collected in the early to mid-1970's. A session around Keith's truck's tailgate outside the InnSuites revealed about five flats of specimens, most of them showing bright blue linarite crystals lying flat in the open seams, some of them accompanied by blue-green, blocky crystals of caledonite, with tufts of acicular, bright green brochantite crystals to 2 mm. In the very few elite specimens, paper-thin, transparent linarite blades to 2.5 cm rise vertically from the veins, and brilliant crystals of caledonite, dark bluish green and somewhat resembling dioptase, to 1.25 cm, rest on matrix. Marcus Origlieri has verified the species identifications by Raman spectroscopy at the University of Arizona. The very topmost of these linarites and caledonites are now in "private hands," but a few good ones are being marketed by Rob Lavinsky of *Arkenstone*.

Two lesser, but intriguing, items conclude the California rollcall. Last fall, during an annual mineral-club dig in the evaporite deposits of Searles Lake, San Bernardino County, Justin Zzyzx (of Tucson, and of the invaluable web compendium of mineral dealers called *The Vug*) extracted several dozen fine crystals of **sulphohalite** that were embedded in solid halite. Sharp, only slightly distorted, translucent, greenish gray, octahedral crystals, to 3 cm on edge, of the rare sodium sulfate-chloride-fluoride could be had for about $20 apiece in the InnSuites room of Alfredo Petrov (alfredopetrov@earthlink.net). Transparent, colorless crystals of **thenardite** to 5 mm cling to the faces of a few of these crystals, and one busy 8 × 10-cm matrix specimen shows good crystals, not only of sulphohalite but also of **hanksite, trona** and **borax**.

It is always a good idea, even if your means enable you to buy things like Mockingbird mine gold specimens, to wander sometimes into the many hotel rooms where casual field collectors, just in from desert or mountains, offer modest wares which you might not have heard or read of before. In one such room in the Executive Inn show, that of Chris Lehmann (25627 Hwy 6, Benton, CA 93512), nice **calcite** (among other) specimens which Chris had dug were on view, and I picked up a pertly perfect, extremely attractive thumbnail for all of five dollars. The calcite specimens show sharp, lustrous, translucent, milk-white to pale yellow, low-angle "butterfly" twins to 2 cm rising from shallow cavities in soft, buff-colored marly limestone. Chris says that the calcite twins, as well as sharp, simple scalenohedral calcite crystals to 5 cm, have been collected for at least 30 years from outcrops in the Coyote Mountains, 4 miles north of the village of Ocotillo, in Imperial County. He had about 100 thumbnails and miniatures of the material. Also notable in this room were some specimens showing good, lustrous, red-brown, trapezohedral crystals of **grossular** to 1 cm in skarn matrix with pale green massive diopside, from an old tungsten property called the Chipmunk mine, Inyo County—a thumbnail of this would run you about $12.

At the open-pit Northumberland gold mine, Nye County, Nevada, major mining for gold commenced in the 1930's and commercial **barite** production began in 1964 (see the article on the Northumberland mine by Kokinos and Prenn in the special Nevada issue, Jan.–Feb. 1985). Good barite specimens from the Northumberland mine were fairly common on the market during the late 1980's and early 1990's, but little has been heard from the locality since then. Here, though, was a "renaissance" of older material at the Main Show stand of *Harvey Gordon Minerals* (500 Ballentyne Way, Reno, NV 89502), where about 100 large barite specimens were being offered. They are the contents of two huge pockets collected in 1963–1964, and only now coming to market. The specimens, ranging between 6 × 6 cm and nearly 60 cm (two feet!) across, are clusters of very sharp, thick-tabular barite crystals with wedge terminations, individually reaching 7 cm or so; many of the crystals perch lightly atop the clusters and thus show dramatically as doubly terminated. Some of the barite crystals, darkened by heavy inclusions, are gray and nearly opaque, while others are grayish yellow to orange, and translucent to transparent; a few show distinct phantoms. Jason Herrmann (Lithosphere Minerals) and Art Soregaroli were filling in at the show for the ailing Harvey Gordon, seemed to be moving these huge, heavy barite specimens briskly along to buyers.

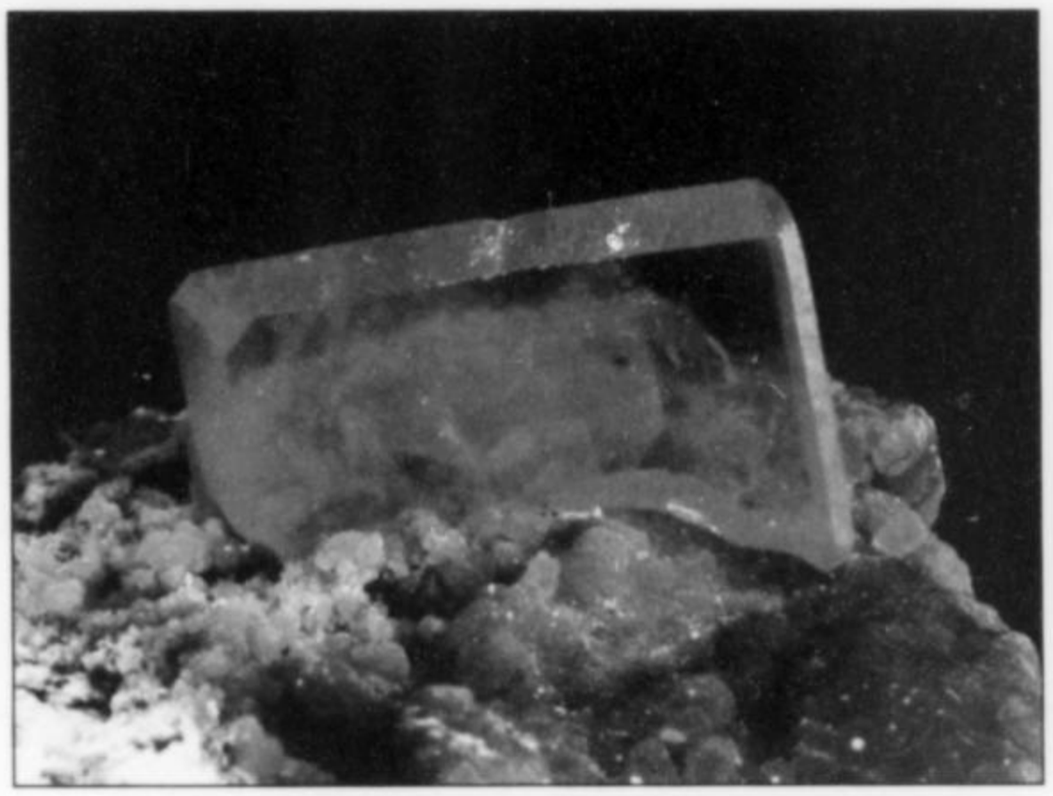


Figure 4. **Wulfenite crystal, 1.4 cm, from the Harrington-Hickory mine, Milford, Beaver County, Utah. IC Minerals specimen; Jeff Scovil photo.**

Southwestern U.S. collectors get their worldviews expanded when a new **wulfenite** locality *not* in Arizona or Mexico comes to light. Isaias Casanova of *IC Minerals* (icminerals@earthlink.net) had something for people like these at his stand at the Main Show—and placed a few preview specimens in the "what's new in minerals" showcase in the Clarion lobby during the hotel-show

period. Isaias came into several flats—about 50 specimens, mostly miniature-size—of very good wulfenite collected by John Brugman in 1997 from the abandoned Harrington-Hickory mine, Milford, Beaver County, Utah. The wulfenite crystals are bright yellow-orange to medium-orange, transparent, very thin "windows" to 1.5 cm, loosely attached to pieces of soft, buff-colored sedimentary rock and canted at varying angles to this matrix; tiny yellow mimetite spheres are associated in some specimens. Loose, 2-cm **cerussite** twins of unprepossessing appearance were also included in the specimen lot. The best of the wulfenites (some of which went from Isaias to dealer Peter Megaw, pmegaw@imdex.com) were priced in the low three figures.

Like barite from the Northumberland mine, **fluorite** from the White Rock quarry, Clay Center, Ottawa County, Ohio is generally thought of as a thing of the past, but a specimen-strike in November 2006 in the quarry is now being said (by the striker) to represent the best find of "Clay Center" fluorite specimens of the last 50 years. Dave Bunk had a few dozen of the best pieces at the Main Show, and they are fine indeed, with lustrous, part-gemmy, pale brown to rich orange-brown, cubic crystals of fluorite to 5 cm on edge, intergrown with milky white, bladed celestine crystals to 4 cm long. Some of the specimens offered by Dave are single loose fluorite cubes of miniature size, but most of the fluorite/celestine crystal clusters are cabinet-size, the largest measuring 25 × 25 × 30 cm; prices are in the $500–$5000 range.

Indefatigable Terry Ledford of *Mountain Gems & Minerals* (wicottawatta@wmconnect.com) hit *another* pocket of fine gemmy **hiddenite** (that is, chromium-green **spodumene**) crystals in May 2006 at the Adams Farm, Alexander County, North Carolina, and he was selling the pretty little green bolts in his room at the InnSuites. About 50 loose hiddenite crystals emerged from the pocket; they range in size from 1.5 cm ($100–$200) to a single one measuring 6.9 cm (POW). One remarkable 2-cm crystal (which Terry is keeping for now) has a rich, intense green color distributed throughout, whereas most of the rest of the crystals are pale to medium-green at the tips to almost colorless at the bases. At the same locality Terry unearthed about a dozen highly lustrous, red-brown single crystals and little crystal clusters of **rutile**. The rutile prisms are deeply striated and most are cavernous at the terminations. These small thumbnail-size specimens were selling for $30 each.

Connecticut also had something new/old to offer at Tucson: in the Clarion ballroom, Rocko Rosenblatt (rocko@catskill.net) had about 30 excellent specimens of **prehnite** from the O & G #2 (Silliman) quarry, Southbury, New Haven County. This crushed-stone quarry is still active, but collecting is sternly limited and policed, and Rocko's cache represents several years of effort by one collector. The pale green, silkily lustrous, botryoidal masses of prehnite range from small-miniature size to one measuring 12 × 12 cm ($200). Some of the prehnite has glittering coatings of colorless, transparent apophyllite crystals with individuals to 5 mm.

Excellent bright green crystals of **andradite ("demantoid")** have come at rare intervals from the Thetford Mines district near Black Lake, southern Quebec, about 60 km north-northeast of the much more famous Jeffrey mine at Asbestos. Mining for chrysotile commenced in 1958 at the Lac d'Amiante mine, now a huge open pit, and the best of its gemmy green "demantoid" crystals to date were found in 1997. In fall 2006 a young collector, exploring old dumps of the Lac d'Amiante mine, found about 30 andradite crystals, all single, slightly distorted dodecahedrons ranging from 1.5 to 3.5 cm, loose and devoid of any matrix or associated species. These crystals are of excellent quality and quite pretty, being lustrous, part-gemmy, and of a pleasant medium green hue. Quebec-minerals devotee Marco Amabili acquired the crystals, and at the Westward Look Show Giuseppe Agozzino was carrying around an impressive little boxfull of them. So far the specimens are being offered "privately" to selected buyers, but the mine is still operating and, of course, another such lucky find (who knows?) may well be pending.

Darryl B. MacFarlane of *Grenville Minerals* (grenvilleminerals@cogeco.ca) appeared at the InnSuites with most of the haul of roughly 2,000 specimens of **molybdenite** he mined in summer 2006 at the Moly Hill mine, La Motte, Quebec (this locality is sometimes called "Malartic," the name of the largest town of the region). The best of the specimens are excellent, showing sharp, brightly metallic molybdenite crystals to 4 cm across. The crystals are very thin, and tend to be slightly raggedy on the wide front faces, but all display sharp hexagonal profiles, and many stand up well from (though most, of course, lie flat on) the massive quartz matrix. Intermittently mined for decades, mostly for quartz, occasionally for molybdenum, Moly Hill may never before have turned out a better large lot of molybdenite specimens—and Darryl is to be credited with excellent specimen-preparation work. Sizes of the matrix pieces range from thumbnail to about 6 cm, and prices are generally under $100.

There is much to report from Mexico this time around. First up is a discovery *not* represented (as far as I saw) by any sizable specimen lots at Tucson—but late in 2006 the website of Jack Lowell's *Colorado Gem & Mineral* (cgmaz@Cox.net) offered a small handful of specimens, and a few loners were also in evidence here and there at the Show. I'm talking about loose, thumbnail and small miniature-size single crystals and clusters of **turquoise pseudomorphs after apatite** from the La Caridad mine, Nacozari de Garcia, Sonora. These are probably the best representatives of this rare pseudomorphic phenomenon yet found anywhere. The La Caridad is an open-pit copper mine where the turquoise pseudocrystals are found in nodules, and many are discarded, mixed in with backfill, or otherwise lost. In 2006, however, about 100 pseudocrystals were rescued and ended up with Jack. They are opaque and slightly rough-faced, with a bright, pleasant sky-blue color, and the best of them preserve very well the hexagonal-prismatic form of the original apatite crystals, and show pyramidal terminal faces. A few surfaces show microcrystals of chalcopyrite, molybdenite and muscovite. About $150 can purchase a superb 3-cm specimen. This locality, by the way, is distinct from one which lies about 50 km

Figure 5. **Turquoise pseudomorph after apatite, 3 cm, from the La Caridad mine, Nacozari de Garcia, Sonora, Mexico. Jack Lowell specimen, now in the Thomas Moore collection; Jack Lowell photo.**

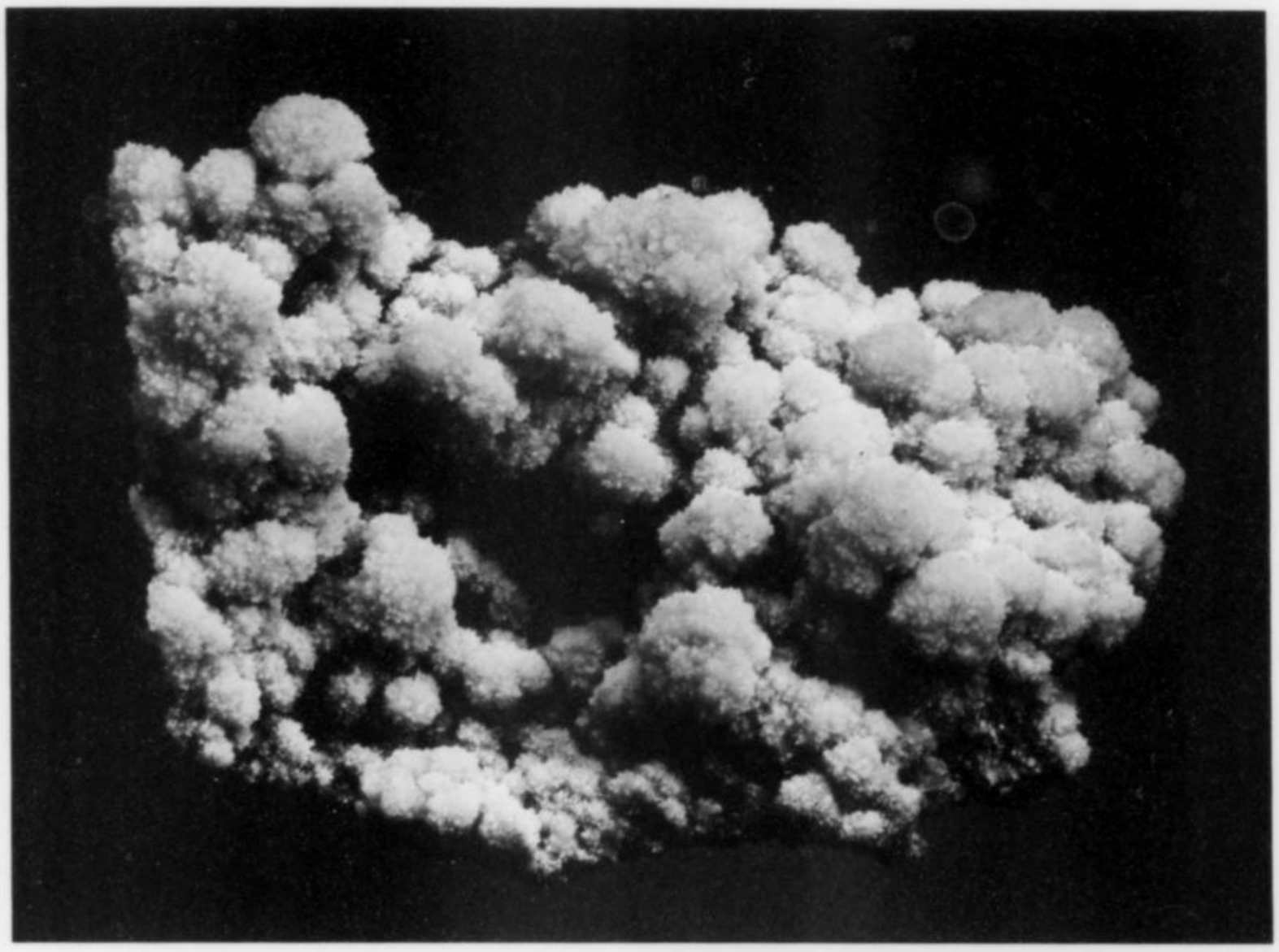


Figure 6. **Mimetite, 10.5 cm, from the Ojuela mine, Mapimí, Durango, Mexico. Peter Megaw collection; Jeff Scovil photo.**

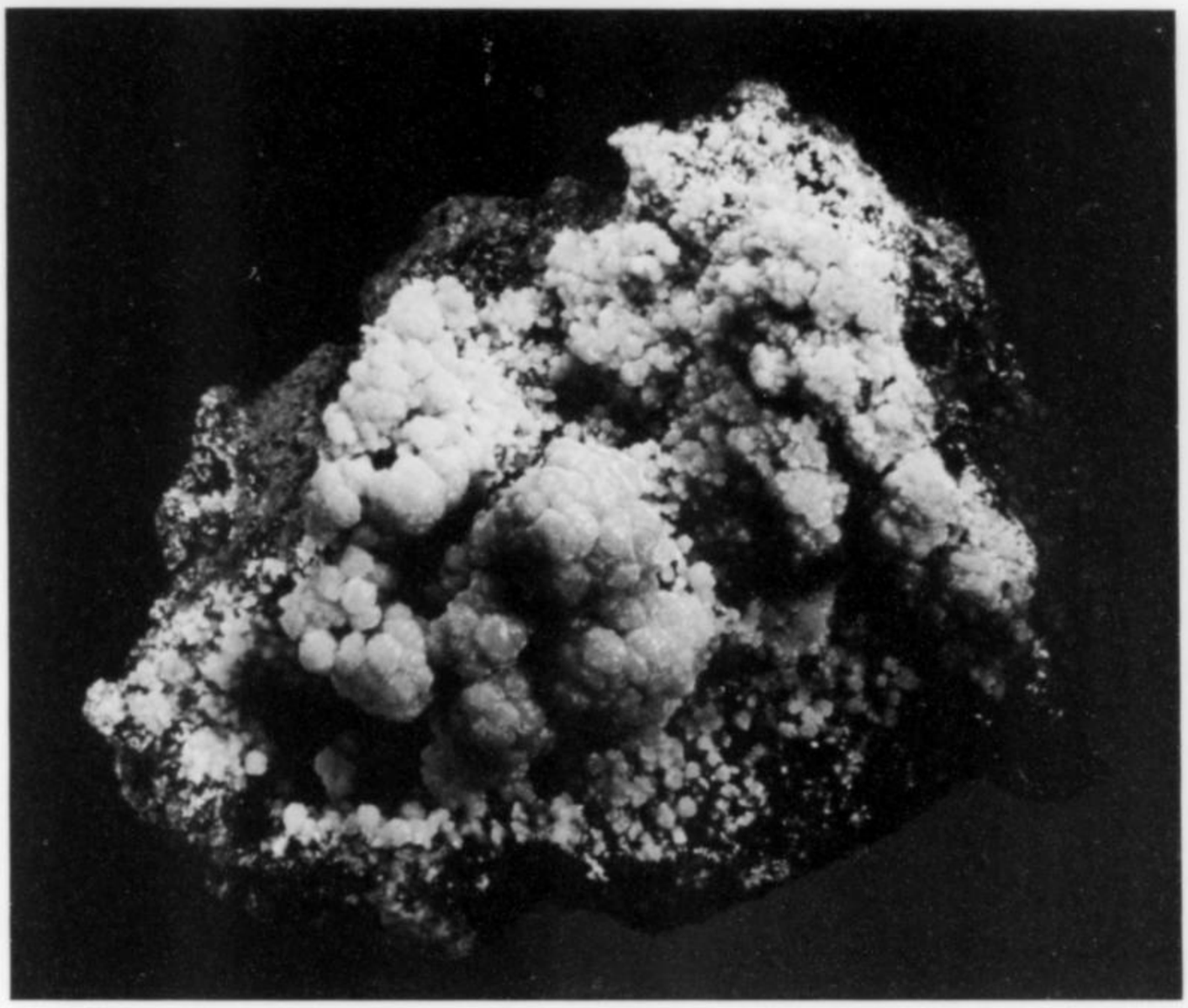


Figure 7. **Mimetite, 13 cm, from the Ojuela mine, Mapimí, Durango, Mexico. Peter Megaw collection; Jeff Scovil photo.**

south of it: the Cumobabi mine near the village of Cumpas, from which similar turquoise pseudomorphs have emerged in the past.

In late 2006, about 200 fine **gypsum** specimens were taken from a cave near a playa lake somewhere in the "Zone of Silence," a vast, nearly uninhabited region which sprawls for about 600 km north from Bermejillo to the Big Bend country of Texas (see pages 7 and 8 of the Ojuela mine special issue, Sept.–Oct. 2003). The gypsum specimens, brought out by Peter Megaw (pmegaw@imdex.com) and offered by him in the Clarion at Tucson, are huge groups—to 50 cm across. They consist of transparent and colorless to translucent and milky gray-white, fishtail-twinned crystals with serrations along their sides; some groups have no matrix while others rest on chunks of carbonate country rock.

The major attraction in the Clarion room of Peter Megaw—seen also in the Clarion ballroom with Benny Fenn (www.fennminerals.com) and (at Rob Lavinsky's *Arkenstone* booth at the Main Show) were large and dramatic specimens from a new strike of **mimetite** in the famous Ojuela mine, Mapimí, Durango. The mimetite forms thick botryoidal, stalactiform and (if I may say so) caulifloweroid encrustations on the walls of cavities in the typical earthy brown "limonite" gossan of the Ojuela mine. The most impressive specimens are cabinet-size chunks of gossan with deep openings that you look down into to see the walls bubbling thickly with the bright yellow mimetite. Yes, it is yellow (with some greenish or orangish tones), a fact which makes this pocket, found late in 2006, most unusual, for nearly all Ojuela mimetite which we are accustomed

to seeing is olive-green, and specked with small yellow wulfenite crystals. Wulfenite is here, too, but only as microcrystals embedded in the gossan. Basically the new specimens consist solely of yellow mimetite covering "limonite." In the same (unspecified) area of the Ojuela mine, at about the same time, hundreds of very beautiful **hemimorphite** specimens were found, these consisting of sprays to more than 2 cm of lustrous white, bladed crystals rising from matrix, with tiny bright yellow spheres of mimetite around their bases. Gleaming specimens reaching 10 cm across could be had from Peter Megaw, as well as from wholesaler Mike New of *Top Gem Minerals* (topgem@topgem.com).

Figure 8. **Austinite, 3.5 cm, from the Ojuela mine, Mapimi, Durango, Mexico. Rob Lavinsky specimen and photo.**

The Ojuela mine—where the Spaniards began taking out ore in 1598—gave forth yet another surprise which showed up at Tucson this year. The rare Ca-Zn arsenate **austinite** was earlier known from the mine only as druses of acicular white microcrystals (see Sept.–Oct 2003), but just one month before Tucson 2007 the mineral was found as encrustations of densely packed, radiating groups of pale yellow to pale green acicular crystals to 5 mm, the crusts covering dark brown pieces of gossan to 15 cm across. Superficially the sparkling yellow crusts look like adamite, but Raman spectroscopy (once again performed by Marcus Origlieri at the University of Arizona) has shown them to be austinite. One remarkable 1 × 3.5-cm specimen is a flattened mass of bright yellow austinite sprays without matrix. About a dozen of these brand-new Ojuela austinite specimens (unpriced as yet) were to be found in the keeping of Rob Lavinsky at his *Arkenstone* booth at the Main Show.

The Naica district of polymetallic mines in Chihuahua checks in once in a while with outstanding specimens of green fluorite, as well as calcite, gypsum, galena, sphalerite and many rarer species, often in beautiful "combination" specimens. Late in December 2006, a big pocket in a mine in Naica gave up hundreds of specimens of **fluorite/galena** ranging from medium-miniature to medium-cabinet size. Individual pieces were to be seen at several dealerships around Tucson, but by far the biggest and best stash was to be found at the InnSuites with Chris Wright of *Wright's Rock Shop* (wrightsr@ipa.net). On these specimens, fluorite appears as transparent pale green to grayish green cubo-dodecahedrons to 7 cm (some of the crystals have chalcopyrite inclusions arrayed in odd pyramidal shapes), and galena co-stars effectively as sharp, lustrous cuboctahedrons to 6 cm (as well as a few sharp spinel-law twins). Tight knots of lustrous black sphalerite crystals adorn many of the specimens, too. Chris Wright was asking from $95 to around $1000 for these beautiful display pieces.

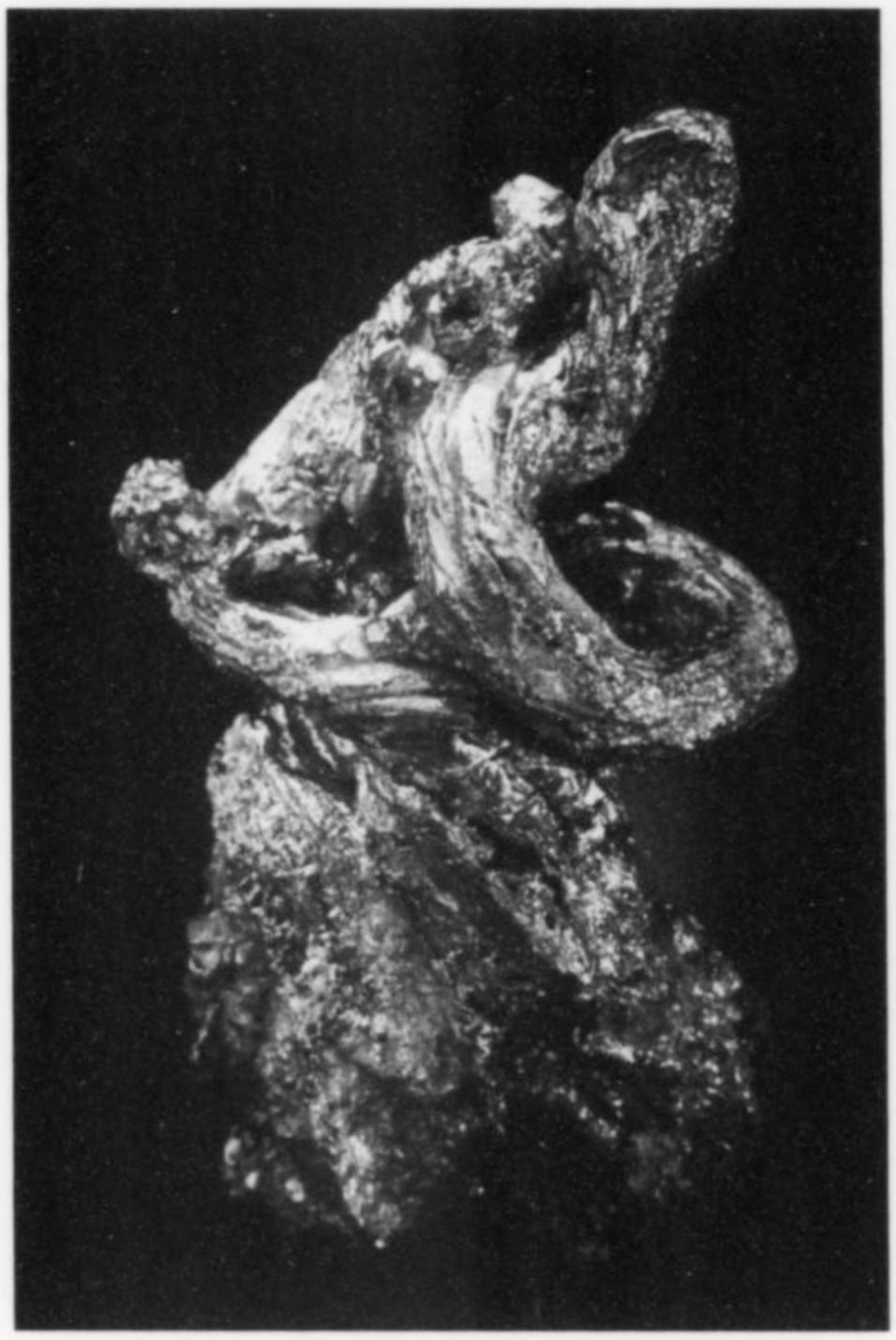


Figure 9, **Wire gold, 4.7 cm, from La Gran Sabana, Santa Elena, Venezuela. Collector's Edge Minerals/Crystal Classics specimen; Jeff Scovil photo.**

We've long known gold from Venezuela as single, commonly very large, hoppered crystals said to be from the alluvial goldfields in the southern part of the country. But this year *Collector's Edge*, apparently not content with scooping the market with world-class California gold, also offered intriguing specimens of **wire gold** from La Gran Sabana, Estado Bolivar, Venezuela. "La Gran Sabana" will ring familiar, as this term is often given to denote the place where those slightly rounded gold crystals are taken from alluvium. However, this new occurrence, while lying nearby, is of the hardrock type: *Collector's Edge* has photos of miners taking the little gold specimens from pit workings where narrow quartz veins which host the gold come close to the surface. The find dates to January 2006, and so far about 50 specimens, from thumbnail-size to 8 cm, have made it to the U.S. At Tucson, Steve Behling and Tom Gressman were showing off many of them at the InnSuites and Westward Look respectively. The gold occurs as loose, bright, thick wires in varying configurations (e.g. just slightly curving, or bent over fishhook-style, or forming closed loops); a very few matrix specimens show the gold wires rising from massive "bull" quartz. The best of the thumbnails are priced in the mid-four figures.

In his room in the Clarion, Jaroslav Hyršl (hyrsl@kuryr.cz), the ever-peripatetic Czech who is one of the world's top experts in Peruvian mineral occurrences, had a new one: superb **realgar** specimens from the Palomo mine, in the Huachocolpa ore district, Huancavelica Department, Peru. Jaroslav has written a short article on this little-known mine, which *Mineralogical Record* readers will see in good time; meanwhile suffice it to say that the Palomo is situated at an altitude of 5,000 meters, in a dry valley between the Julcani and San Genaro districts, and the last metal mining there took place between 1995 and 2000. Free-lancers now are digging for specimens, and the handful of realgar crystal clusters which Jaroslav brought to Tucson were taken out in early December 2006. They show opaque, very bright red crystals to 5 cm, most of them a little rounded, and a few notably hoppered. Bright yellow crusts of orpiment partially cover some of the crystal groups, and sharp orpiment epimorphs after realgar crystals to 2.5 cm occasionally have been found. The arsenic sulfides rest on massive black matrix of mixed sulfides in which lurk microcrystals of the rare mineral seligmannite ($PbCuAsS_3$). These vivid red and red/yellow specimens, ranging in size from around 4 to 10 cm, clearly rank the Palomo mine as among the more significant realgar occurrences in the world.

Another important and beautiful discovery in Peru was evident to showgoers as soon as Luis Burillo (Urb. Pinar Canal, 24, 50007 Zaragoza, Spain) opened his door at the InnSuites. A large showcase

Figure 11. **Rhodonite crystal cluster with pyrrhotite crystal, 3.2 cm, from the San Martín (Chiurucu) mine, Huanuco, Peru. Gobin specimen, now in the Ralph Clark collection; Jeff Scovil photo.**

in Luis's room was resplendent in rose-pink, as it held about 100 pieces from a new find of **rhodonite** at the little zinc (sphalerite) working heretofore known as the Chiurucu mine, Dos de Mayo Province, Huanuco Department. One of the mine's managers, who had come with Luis to Tucson, informed me that the Chiurucu mine is now called the San Martín mine (change your labels!). Gorgeously deep pink aggregates of bladed rhodonite crystals, the aggregates sometimes reaching cabinet-specimen size, from the Chiurucu mine were first found in 1989—see the great 13-cm specimen on the cover of the March–April 1990 issue of this magazine—and a few more were unearthed in 1998, but at neither of these earlier times did supplies prove generous or long-lived. In October 2006, according to the mine manager, several pockets located in veins along a contact between sphalerite ore and a surrounding skarn yielded about 400 new rhodonite specimens ranging widely in size and quality but including about 40 large, superlative pieces. Most of the specimens on hand with Luis Burillo are loose, delicate, rosette-shaped aggregates of small crystals, thumbnail and small miniature-size, and pale to medium-pink, looking like roses freshly plucked from their stems. These are priced at $50 to $150. The finest specimens from the new find show bundles of wide, flat, transparent pink to red rhodonite blades to 2 cm rising from matrix. Finally, a *very* few of the rosette-shaped aggregates have immaculately sharp and lustrous, thin, metallic-bronze **pyrrhotite** crystals to 1 cm resting lightly on them. Thus another locality for attractive material which prematurely had been judged extinct has now been revived. These new rhodonites from the Chiurucu (that is to say, the San Martín) mine, were a major hit of Tucson 2007.

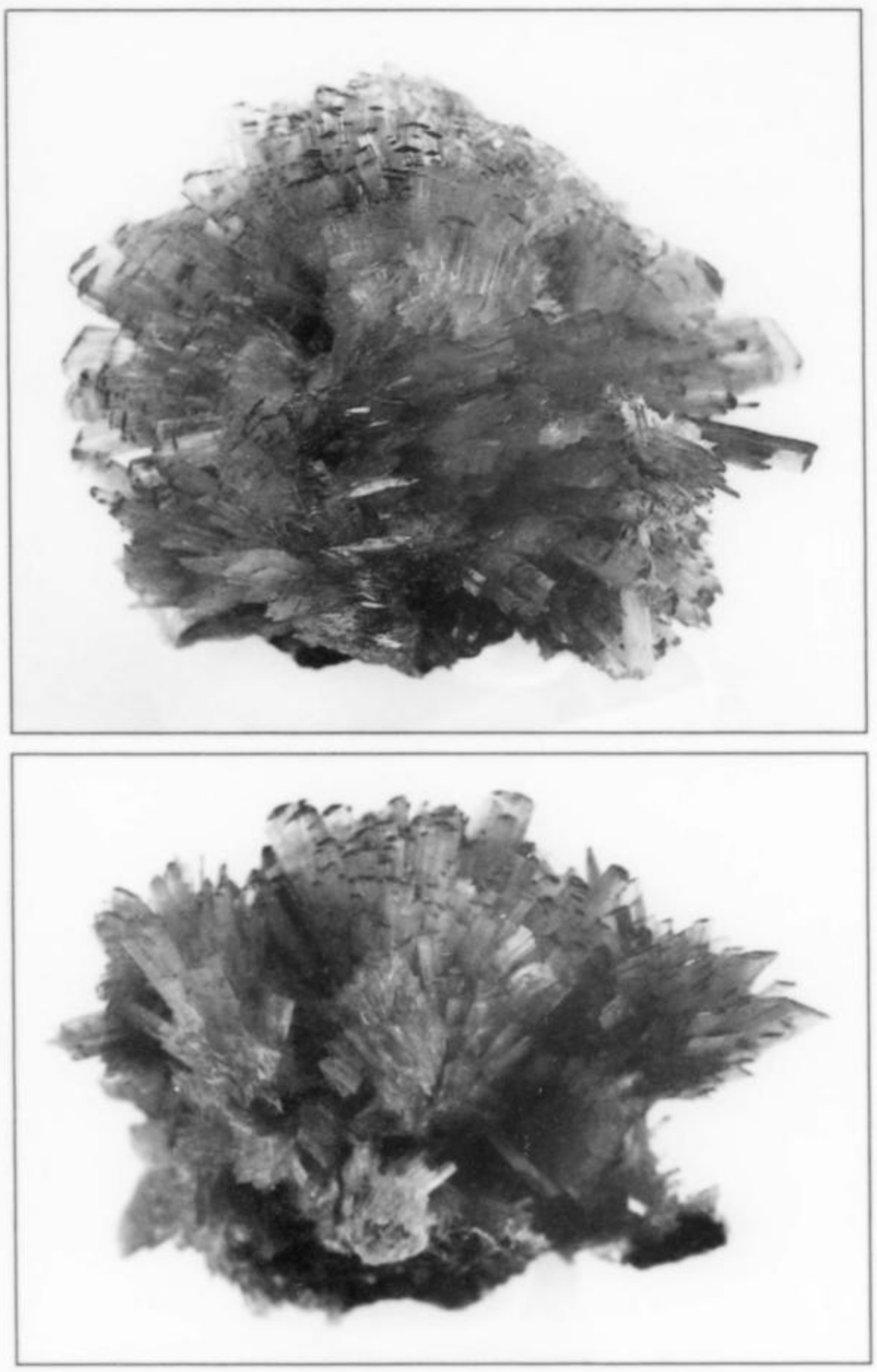


Figure 10. **Rhodonite crystal clusters, 2.9 cm (top) and 3.7 cm, from the San Martín (Chiurucu) mine, Chiurucu, Huanuco, Peru. Rob Lavinsky specimens; Jeff Scovil photo.**

Time now to conclude the New World part of the tour by considering (as usual) varied attractive things from Brazil. First, although gold from California and Venezuela took center stage this year, it just would not do to ignore the nice, small thumbnail-size, groups of rough gold crystals from near the village of Alta Floresta in Mato Grosso state. Alvaro Lucio (alucio@matrix.com.br) has been bringing little swarms of these specimens to U.S. shows for several years now, and the ones he brought to Tucson 2007 are especially nice, with prices ranging from $100 to $1,400, depending mostly on sharpness of crystal edges. The crystal groups are found in clay layers in alluvium.

In 2002 (see the Tucson report in the May-June issue of that year), fairly good numbers of lustrous, gemmy and oddly colored **elbaite** crystals from the Baxao mine, Taquaral, Minas Gerais entered the market. The color-zoned prisms show areas not only of pink and green but also of yellow and rootbeer-brown, and all crystals seen in 2002 are etched, looking to some degree chewed-upon, in some cases almost bitten through. Well, the good news is that a pocket found in late 2005 in the Baxao mine yielded about 100 loose crystals, these having the same high luster, complete gemminess, and odd color scheme, but with *no* etching, meaning that all prism faces are mirror-smooth and that complex systems of pyramidal terminations are evident. These are very beautiful, and still wholly distinctive, elbaite specimens. Lone examples were scattered around the show, but the best selection was at the InnSuites with Greg Turner of *Sacred Earth Minerals* (luminerals@yahoo.com), where $100 or so could buy you a lovely 3-cm loose prism.

Specimens showing yellowish green, translucent, medium-lustrous, discoidal crystals of a mineral belonging to the apatite group emerged in late 2005 from the Sapo mine, Goiabera, Minas Gerais (see the report of the 2005 Munich Show, Jan.–Feb. 2006, and Dr. Federico Pezzotta's subsequent determination of the species as hydroxylapatite, published in the Letters column in the Mar.–Apr. 2006 issue). New crystals found in the Sapo mine in October 2006, although they look much like the older ones and rest, like those, on the surfaces of large microcline crystals, have been shown to be **fluorapatite**—this according to Luis Menezes (lmenezesminerals@uol.com.br), who brought a good supply of the new material to his room in the InnSuites. Pale bluish green, translucent, discoidal crystals to 1 cm have grown in thin, regularly offset stacks. Some of these aggregates are available as loose groups 3 or 4 cm long and less than 1 cm thick, but the big specimens show fluorapatite aggregates snaking across the faces of buff-colored microcline crystals to 30 cm wide. Prices for these peculiar fluorapatite specimens range from $20 for a large thumbnail to $500 for a large cabinet piece.

In his big airy room in the Quality Inn, Benson Highway—Marty Zinn's new-this-year acquisition—Carlos Vasconcelos of *Vasconcelos* (vasconpedras@uol.com.br), had laid out the contents of a spectacular new find, in December 2006, of **brazilianite** in the Telirio mine, Linópolis area, Minas Gerais. The elongated, wedge-terminated brazilianite crystals typical of the Telirio mine are familiar enough by now that this new find would not be noteworthy but for the exceptional quality of all the specimens and the amazing size of a couple of them: one specimen is a single, thick, gemmy, deep yellow-green brazilianite crystal measuring 2 × 3.5 × 5 cm, and one majestic "museum piece" is a lustrous, transparent, pale smoky quartz crystal measuring 15 × 32 cm, studded all over with beautiful gemmy brazilianite crystals to 4 cm. Carlos also had about 20 superb miniatures and small cabinet-size pieces with doubly terminated brazilianite crystals on white feldspar matrix; and from the same pocket find he had about 20 very fine specimens of **hydroxyl-herderite**, with lustrous, pale yellow-brown, diamond-shaped crystals to 5 cm in clusters to 12 × 12 × 12 cm. This is the most impressive lot of specimens from the Telirio mine I have seen in quite a few years. The miniature and small cabinet-size brazilianites were priced at $500–$1200.

There are still *four* significant Brazilian items remaining to be described. Two of these were with Alvaro Lucio in the InnSuites, and I had never seen the likes of either before. First, Alvaro had a small spread of lovely thumbnails showing thin, pale orange, gemmy, complexly terminated prisms of **topaz** protruding from ice-clear to slightly cloudy rhombs of **magnesite**, these from a single pocket opened last summer in the famous Brumado magnesite mine in Bahia state. The topaz crystals get to a bit more than 1 cm long, and some have partial dustings of glittering magnesite microcrystals. Alvaro also had a few thumbnails, found early in 2006 at a place called Gouveia, Minas Gerais, which he said are **rutile pseudomorphs after anatase**. Here recall that "Gouveia" was given as the locality for the peculiar anatase specimens of a few years ago, wherein steep bipyramidal crystals in parallel growth form loose, cathedral-like groups, many tinted a bright bronzy brown by rutile patinas (see my report from the 2003 Costa Mesa Show in Mar.–Apr. 2004). The new "Gouveia" thumbnails, by contrast, are isolated *blue-black* bipyramids to 2 cm, some having small red-brown rutile prisms lying flat on their faces. In other words, the major crystals look exactly like anatase itself (coming from France or Switzerland they would be extraordinary, record-size anatase crystals) and not like pseudomorphs of anything *after* anatase—but Alvaro seemed sure of his information. Can anyone help with this?

In the Clarion, Linus Keating of *Arizona Lapidary & Gem Rough* (arizonalapidarygemrough@yahoo.com) had a few surprising crystal groups of **sillimanite** from a prospect now being developed somewhere in Minas Gerais. Translucent, faintly lustrous, smoky blue-gray, somewhat rough prismatic crystals of sillimanite to 3.5 cm form parallel groups; small gemmy areas may be seen in a few of the crystals. Linus had about 20 specimens of the material, one of which he put in the "what's new" case in the Clarion lobby. Obviously this occurrence must be called a work in progress, like that of the gemmy rhodonite crystals of Conselheiro Lafaiette, on which Linus is also working.

The last (at last) among the Brazilian what's-news is a recent discovery of **Japan law-twinned quartz** at Santa Maria do Jetiba, Espirito Santo state—in fact, these loose crystals are not only Japan law-twinned, but manage to be sceptered and amethystine as well. About 30 specimens, from 3.5 to 8 cm across the wingtips, were to be found with Daniel Trinchillo (danieltr@ix.netcom.com), mostly in the big white "bargain tent" (of which more later) behind Daniel's house next door to the InnSuites. Several features fascinate about these crystals: whereas most Japan-law twins are highly flattened perpendicular to the long axes, these are quite thick in relation to width (a 3.5 cm-wide twin is 2 cm thick), and whereas colored Japan-law twins in general are extremely rare, *all* of these crystals have irregular zones and veils of purple, and many show smoky brown zones as well. And the loose twins really are scepter heads: they show remnants of stems which in most cases can be seen to continue *behind* the twins, as if the latter were mounted frontally upon the earlier growth of milky white to colorless quartz. Transparent, lustrous and sharp-edged, with shallow re-entrant angles, these are both attractive and decidedly "different" quartz specimens. They are the products of a big pocket hit in early 2006 in a pegmatite where, according to Daniel, production of specimens began about two years ago.

Before touring onward to the Old World I'll say a bit more about the yearly operation which Daniel Trinchillo conducts from his big white house next door to the InnSuites, since visiting there has by now become an important element of the Tucson Show scene,

especially (though not exclusively) for well-funded collectors. At showtime Daniel throws open the outside gate, and visitors come in, pass a small cactus garden, cross a covered front porch, and enter two rooms full of mineral cases harboring premier specimens and some lapidary art. When the front door of the house is left open, the first of the rooms and its cases may be seen easily from the street, and the sight distracts and threatens to detour motorists driving south en route to the Main Show at the Tucson Convention Center. And during the hotel-show period few people, surely, can resist making the easy walk from wherever their car is parked at the InnSuites, around the corner, and into the treasure chamber. Behind the house, a wide courtyard runs up to the InnSuites parking lot, and a gate in the boundary fence is kept open during show hours. In this courtyard a huge white tent shelters rows of glass showcases bearing thousands of mineral specimens which, this year, were being offered at 50% off. Indeed the "real" prices of many specimens were not marked, and inquiries could bring very pleasant surprises. Many specimens in the tent were almost as "premier" as those in the house, and some were worthy of close and curious inspection (e.g. the Brazilian quartz specimens described above). Standouts in the bargain department included the dozens of fine specimens of brookite and anatase from Kharan, Baluchistan, Pakistan, many of which, when you asked, bore prices which thoroughly undercut those of any Pakistani dealers you might find selling the same stuff in their hotel rooms.

Not to spoil Daniel by overplugging him, but . . . this year he was offering a special, high-tech service whereby collectors of cabinet-size pieces can have a customized Lucite base made for a specimen, the better to display and protect it. First you send for a slab of soft, foamy material; then you impress your specimen into it in preferred display orientation, and mail the slab (carrying the impression of your specimen) back to *Fine Mineral Bases* (finemineralbases@aol.com) in Greenwich, Connecticut. With a hand-held scanner and surface-imaging software, the three-dimensional depression is digitized and the computer file is sent to a model-maker who precisely reproduces the indentation in an acrylic pedestal in which the specimen will fit just right. Label information is engraved into the front of the base, and the finished item is mailed back to the customer. Daniel and his helpers were having a good time during the show, demonstrating the technology on a desk in that wide-open front room of the big white house, and they seemed to be signing up many interested customers, too. They also had a demonstration booth at the Main Show.

We pick up the tour in Europe, where only Portugal and Romania had anything new to say for themselves this year (as far as this reporter could see). From his new digs in the InnSuites, Jordi Fabre was selling specimens, miniature-size to 30 cm across, from a recent discovery of **descloizite** at the Preguiça mine, Sabral da Adiça, Moura, Beja, Portugal. This is a zinc mine, now closed, which was worked for about 10 years. Lustrous metallic black descloizite crystals to 5 mm form solid, sparkling druses on brown "limonite" with white calcite crystals, or, in other specimens, descloizite druses coat rods of solid descloizite to 4 cm individually, these forming interesting-looking branching groups. A good miniature of this material costs $100 to $150. I'll mention also that severely limited mining operations at Panasqueira, Portugal produced in January 2007 a few magnificent specimens of the famous **fluorapatite** of the locality. Giuseppe Agozzino was showing off two of these specimens in the Quality Inn room of the *Geofil* dealership (geofil@geofil.com). The better one is a 4 × 4-cm cluster in which lustrous, grayish purple, semi-gemmy, short-prismatic fluorapatite crystals are beautifully arrayed around a central 2 × 3.5-cm crystal.

The new item from Romania kept company with the pink Peruvian rhodonites in the InnSuites room of Luis Burillo. Luis reports that the great and renowned Herja mine near Baia Marie, Maramures, finally closed in December 2006, after who knows how many decades of yielding superb specimens of semseyite, stibnite, sphalerite, bournonite, fizelyite and other sulfides common and rare, as well as fine calcite, gypsum and quartz. Just a few days before the last working day a large pocket was opened which yielded about 30 of the best **berthierite** specimens ever found in the Herja mine, or anywhere else, for that matter. They are of miniature and cabinet-size, with flaring, flat, fanlike groups of bladed crystals of berthierite intermixed with long prisms of stibnite, and this substrate is partially covered by lawns of acicular berthierite crystals with fuzzy spheres of boulangerite to 5 mm topping the assemblage. Aggregated fans of berthierite/stibnite, dark gray with a brilliant metallic-velvety sheen, form specimens ranging between 8 and 25 cm tall, for which Luis Burillo was asking between $150 and $500.

As mentioned earlier, I found Ernesto Ossola setting up shop in an out-of-the-way venue a week before the hotel show began, and there he showed me much that was new and not a little that was mysterious from the great cobalt mines at Bou Azzer, Morocco. The prettiest stuff in the place, of course, was the pale to hot-pink **cobalt-rich calcite**, of which Ernesto had specimens of widely varying sizes and crystal habits and several (12, by his count) subtly varying hues of pink: other dealers around the show had pink Bou Azzer calcites too, but Ernesto's lot was the best, or anyway the most fun to peruse. He also showed me plenty of new **fluorite** specimens from El Hammam, Morocco, with transparent cubic crystals to 4 cm in colors ranging through apple-green, pale violet, and yellow, many crystals with partial coatings of drusy pyrite. Here also were some promising **azurite** specimens from "Azila," a new Moroccan locality, and five spiky, *lustrous* thumbnails of **acanthite** from the Imiter mine. Of most mineralogical interest, though, are Ernesto's many Bou Azzer specimens with little vugs and open seams tauntingly twinkling—as if daring you to give them names—with microcrystals of rare minerals, some of them possibly new to the locality. Of these, Ernesto felt fairly confident in naming scorodite, powellite, lotharmeyerite, and zincroselite, and he suspected that lavendulan, chalcophyllite and sainfeldite were present as well. It should not be long before someone does authoritative determinative work on this material. Ernesto Ossola

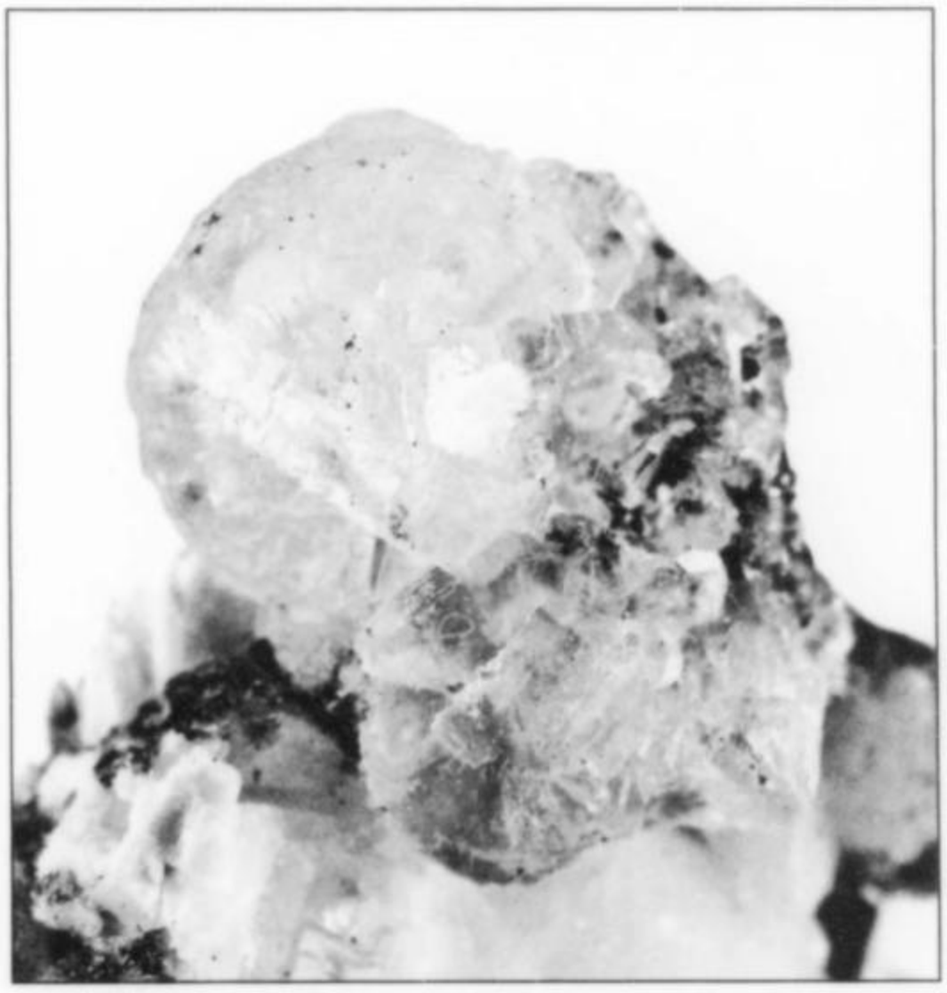


Figure 12. **Prehnite crystal cluster, 2.5 cm wide, from the Merelani mine, Arusha, Tanzania. Rob Lavinsky specimen and photo.**

now lives part of the year in Morocco and part in Tucson, and he is unfailingly effervescent on the topic of "interesting" new Moroccan finds, many of which he has unearthed himself.

The famous Merelani district, Arusha, Tanzania is, of course, the place from which come the beloved blue-purple crystals of "tanzanite" (the gem variety of zoisite). Mineral collectors learned some years ago, when the relevant specimens first hit the market, that many tanzanite crystals occur in a mixed matrix of pale green, occasionally gemmy diopside and (of all things) metallic gray graphite. Now we learn that **prehnite** as well occurs in significant specimens in the Merelani district, where a fairly large number of pieces was found in September 2006. These are spheres and hemispheres of tightly intergrown prehnite crystals, each rounded aggregate showing a pattern of ridges (the edges of large crystals) on its upper surface. Some of the prehnite spheres and hemispheres came out as loose, thumbnail-size specimens, whereas in other cases the rounded aggregates perch on a matrix of diopside, graphite and quartz. All of these new specimens are quite pretty, as the prehnite is transparent, yellow-green, and highly lustrous. About 100 pieces (nearly all showing at least some damage, unfortunately) were offered at the InnSuites, for $65 each, by Zdenek Prokopec of *Moldavite Mining* (Parkan 105, C. Krumlov, 38101, Czech Republic), and about 20 more, these mostly *un*damaged and pricier, were in Rob Lavinsky's *Arkenstone* room at the Westward Look.

Minerals of central and southern Africa are always well chaperoned at shows by Brice and Christophe Gobin of *Gobin Mineraux* (gobin@club-internet.fr). At the Main Show in Tucson this year the Gobins had a surprising number of large (10 to 15 cm across), gorgeous, recently collected specimens of intensely bright, yellowish green acicular crystals of **cuprosklodowskite** densely projecting from the walls of vugs in typical fashion. These classic specimens are the result of a lucky crack of a boulder by someone last fall on the dumps of the famous Musonoi mine, Shaba, Congo. And in their InnSuites room, Brice and Cristophe also had about 15 very attractive miniature **fluorite/muscovite** specimens from a find made in January 2007 in the Erongo Mountains, Namibia. Blue-green, transparent, medium-lustrous cubic and dodecahedral crystals of fluorite to 1.5 cm form tight floater groups on which sharp, bright yellow muscovite "books" to 1 cm are scattered. These are not to be confused with the recently found, bright green octahedral fluorite specimens from the Orange River area, South Africa (which the Gobins also had).

In the Clarion, Dr. Alexander Dikov of the Bulgarian dealership *Intergeoresource Ltd.* (dikov@mail.techno-line.com) had something rare from the Murrua mine, Alto Ligonha, Mozambique. Some of the pegmatites of this famous district are now being worked by Dr. Dikov for elbaite and other potential gem materials, but it must be said that the five big crystals of **manganotantalite** from the Murrua mine are strictly for mineralogists. They are sharp, medium-brown, opaque, blocky to short-prismatic, loose single crystals ranging between 3.5 and 5 cm, and who knows but what they hint at coming finds in the complex, rare earths-enriched pegmatites of Alto Ligonha (see the article by Dias and Wilson in Nov.–Dec. 2000).

The **liddicoatite** crystals of Madagascar have been well known for a long time, and recently the wonderful large sheaves of deep red liddicoatite crystals from the Minh Tien pegmatite in Vietnam have somewhat overshadowed them, but the Madagascar material may be staging a comeback. Luis Burillo brought to his InnSuites room in Tucson, besides the Peruvian rhodonites and Romanian berthierites already described, a selection of small-but-choice liddicoatite specimens of two different styles, found of late at two different places in Madagascar. From Ambalahe, Manapa, near Betafo, come very lustrous, striated, short-prismatic liddicoatite crystals with trigonal terminations, mostly around 3 cm but exceptionally to 12 cm, loose or on pegmatitic matrix; these crystals are a very dark greenish brown to black but have rich red internal highlights, and on a few of their surfaces rest sharp, lustrous, snow-white dodecahedral crystals of **londonite** (the cesium analog of rhodizite first described in 2001) to 3 mm. From Tsarafara, Sahatany Valley come striated, lustrous, gemmy, color-zoned liddicoatite crystals to 5 cm which one might think are elbaite crystals (but Luis swears otherwise). Most of these have red tips and green middle zones, and some have as many as five distinct color bands, red and green alternating. The nicest of the Tsarafara specimens are the thumbnails and miniatures which show bright, gemmy liddicoatite prisms resting on or rising from translucent grayish quartz crystals. For the smallish examples of both types of liddicoatite specimens Luis asked prices from $100 to $400.

On the way out of Madagascar and Africa I must pause to salute the exquisite and unique, but so far extremely scarce, specimens in which brilliant metallic black, platy crystals of **hematite** have grown epitactically on likewise brilliant prisms, including elbow-twins, of red-brown **rutile**. The locality is a specimen-digging near the village of Tetikana, near the larger town of Ambatofinandrahana, south-central Madagascar. I mentioned these specimens in my report on the 2006 Ste.-Marie-aux-Mines show, and a Scovil photo accompanying that report showed what they look like (Sept.–Oct. 2006). In late June, when I saw him in France, Laurent Thomas

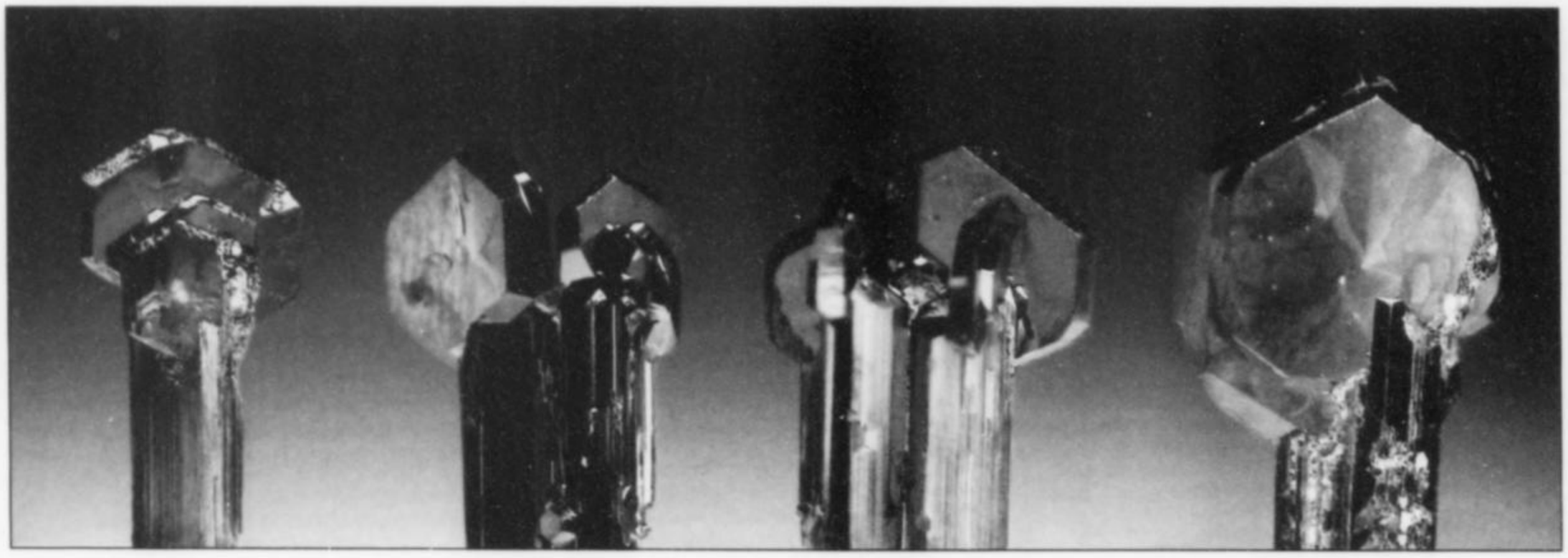


Figure 13. **Hematite crystals on rutile crystals to 2.4 cm, from Tetikana, near Ambatofinandrahana, Madagascar. Laurent Thomas specimens; Jeff Scovil photos.**

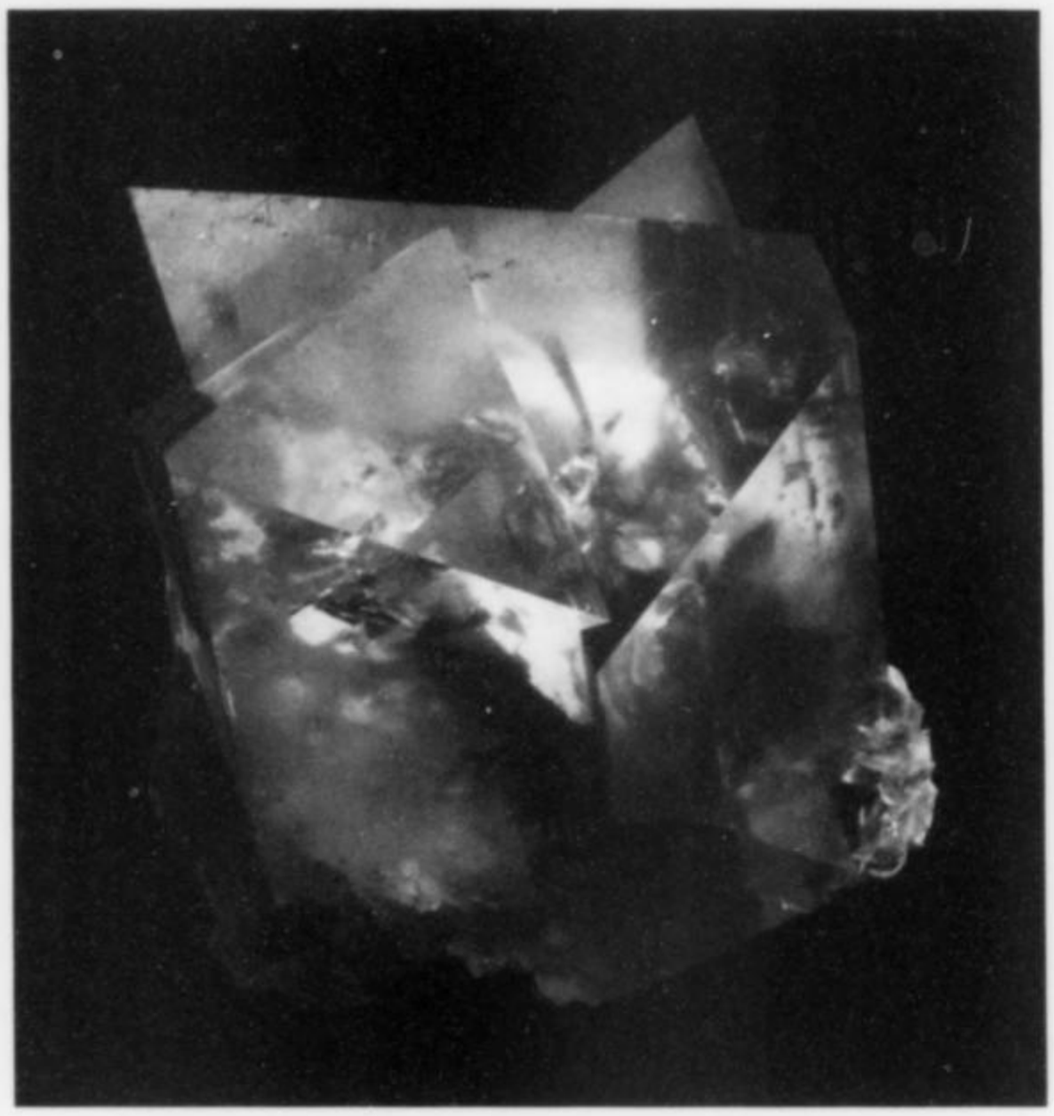


Figure 14. **Fluorite (spinel-law twin), 6.8 cm, from Chumar Bakhoor, Northern Areas, Pakistan. Irv Brown specimen; Jeff Scovil photo (see the article on this find by Roberto Appiani in the previous issue.)**

of *Polychrom France* (polychromfrance@aol.com) expressed his ambition and hope to dig more such specimens, but by the time of the Munich Show he had not succeeded, and now in early 2007 he has *still* not succeeded, and at the InnSuites in Tucson he was selling off the last of the original hematite/rutile specimens.

The former Soviet Union was very quiet this year. I will mention only two new/old things from Kazakhstan, both of which were to be found in the InnSuites room of an affable Czech dealer who spends much time in Central Asia, Konstantin Buslovich (phantom1405@yahoo.com). Earlier show reports have mentioned the fine selections and good deals that Konstantin offers when it comes to **copper** specimens from the Itauz mine, Dzhezkazgan Oblast, Kazakhstan, and this time, again, he had several flats of these, including two flats of superb thumbnails priced between $15 and $35 each and one flat of miniatures priced between $100 and $150 each. A showcase held a few cabinet-size pieces, including a spectacular one 20 cm tall for $3000. These newest copper specimens were collected in the Itauz mine in November 2006. They are the usual stalk-like groups of flattened spinel-law twins, with no associations and with a nice dark coppery color, i.e. mercifully not over-cleaned. Konstantin's other noteworthy item was a last batch of specimens of the **quartz** colored red by hematite inclusions—"strawberry quartz"—which hails from what Konstantin says is a desolate outcrop about 120 km from Chemkent city, Chemkent Oblast, in southern Kazakhstan near the Uzbekistan border. "Strawberry quartz" crystals have been taken from this place since 1989, and have won the favor more of lapidarists than of specimen collectors, but both will now have to handle the fact that the outcrop is exhausted and no new crystals will be forthcoming. Konstantin had a few flats of very pretty clusters to 5 cm across: backlight one, and admire the translucent quartz crystals glowing, yes, strawberry-red.

In his InnSuites room and at the Main Show, François Lietard (francois.lietard@wanadoo.fr) offered about 25 loose, gemmy, striated, pale lilac-colored crystals of what he has been told is **zoisite**, from somewhere unspecified in Afghanistan. The crystals are somewhat crude, with raggedy terminations, but they certainly represent a new, almost kunzite-like look for zoisite (if that's indeed what they are; clinozoisite is a possibility too), and they have gem potential, and reach 20 cm long.

And great are the ongoing wonders of Pakistan. The extraordinary **brookite and anatase** specimens whose locality is given (quite consistently now, unlike at first) as "Kharan, Baluchistan," are arguably the finest specimens of both species yet found anywhere in the world, and they were seen commonly around the show, with all manner of dealers. The transparent brown brookite blades with internal hourglass patterns reach 3 cm long, and the lustrous, fat anatase crystals, not uncommonly to 2 cm, come in both blue-black and brown, and rest amid nests of tiny quartz crystals, as do the brookites. Also getting better with each major show are the clusters of brilliantly lustrous, short-prismatic, rootbeer-brown to maroon **vesuvianite** crystals from Alchuri, Northern Areas. Some of these crystals have odd white fringes around the basal pinacoid faces on both ends, and in one InnSuites room (that of Javed Iqbal of *Hi-Tech*, hitechfp@yahoo.com), I saw pegmatitic matrix pieces hosting both vesuvianite and garnet (probably spessartine) crystals—an association "first" in Mr. Iqbal's experience (and mine). From Alchuri, too, have recently come about 300 loose, sharp crystals, to 2.5 cm, of **chromium-rich diopside**, several flats of which were on hand in the Clarion ballroom with John and Maryann Fender of *Fender Natural Resources* (fendernaturalresources@yahoo.com). The little prisms are gemmy deep green, and many are doubly terminated. They sold for about $30 apiece.

In his booth at the Main Show, Steve Perry (P.O. Box 136, Davis, CA 95617) had a few thumbnail-size crystal groups and

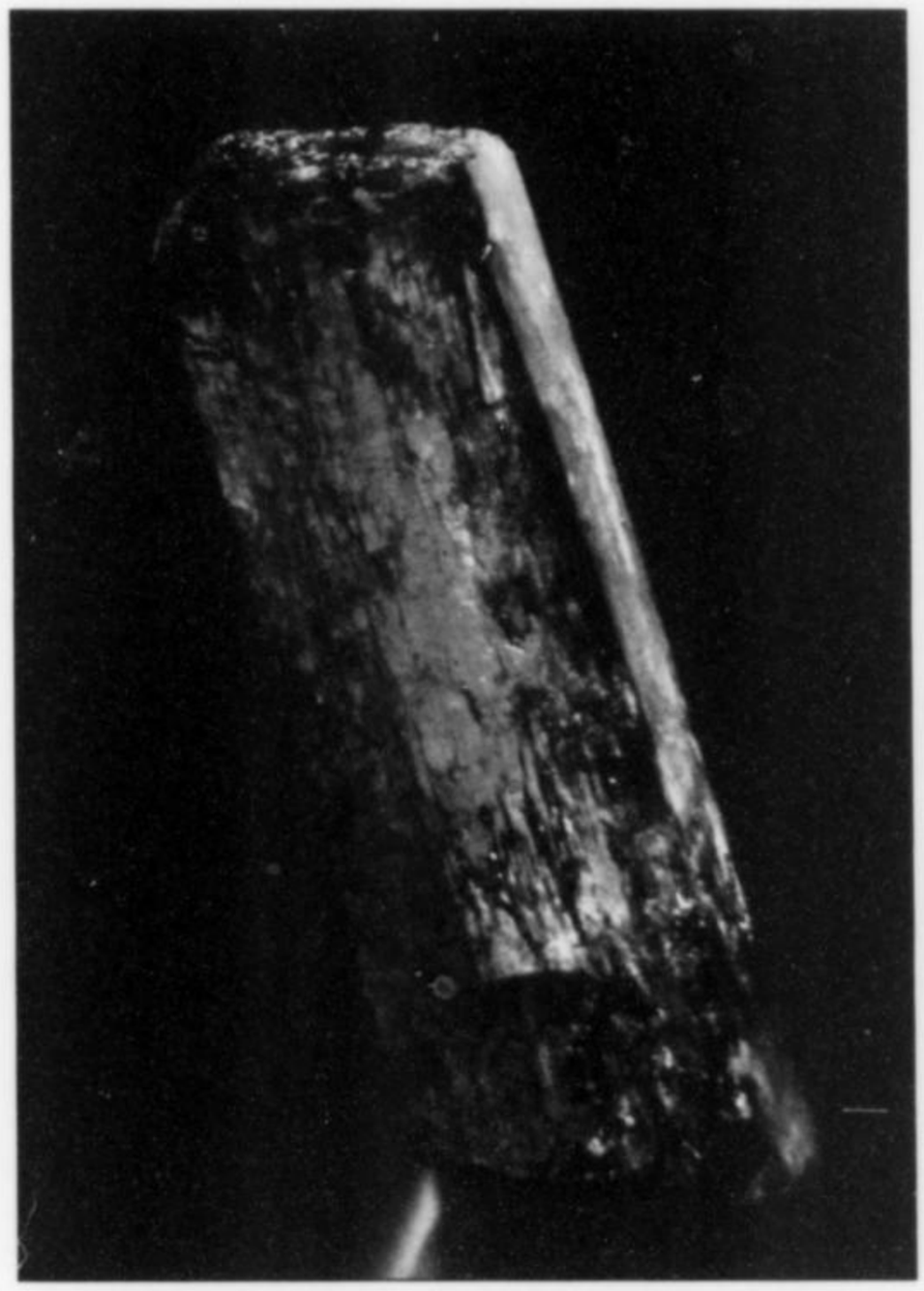


Figure 15. **Diopside (Cr-rich), 2.8 cm, from Alchuri, Shigar Valley, Northern Areas, Pakistan. Fender Natural Resources specimen; Jeff Scovil photo.**

larger matrix specimens showing complex, beautifully gemmy and lustrous, rich orange crystals of **grossular** to 1.5 cm. These look for all the world like specimens from the Jeffrey mine, Quebec, except that pale yellow, subhedral diopside crystals are associated in a few cases. Steve said he has it on excellent authority that the grossular specimens—about 200 of them in all—were found in fall 2006 in the "bastnäsite pit" at Zagi Mountain, Northwest Frontier Province, Pakistan. In their article on Zagi Mountain (May-June 2004), Obodda and Leavens write that dark honey-colored grossular crystals to 3.5 cm, some associated with diopside, come from a locality 30 to 50 km distant from Zagi but "labels on some marketed specimens have attributed them to Zagi Mountain, apparently to enhance their value." The authors also mention "cloudy, pale orange-brown crystals of grossular to 5 cm" from another nearby locality. Neither of these occurrences sounds quite right for Steve Perry's specimens, though, and we must assume for now that the latter do indeed represent an exciting new find at Zagi. Steve's best thumbnail cluster was priced at $500.

From a well-digging at the village of Limbejalgaon, near Aurangabad, Maharashtra, India comes a new style of Deccan Plateau **calcite** which excited marauding calcite collectors—e.g. Terry Huizing, who bought the best specimen from Dr. Arvind Bhale of *Earth Science International* (esi@vsnl.com), after Bhale had put the piece into the "what's new" case in the Clarion lobby. Dug in December 2006, these small-cabinet-size specimens show lustrous, transparent, pale yellow-orange to milky white calcite in odd-looking, featherlike aggregates which rise at varying angles from basaltic matrix; the individual "feathers," reaching 8 cm long, are thin, edge-serrated, parallel aggregates coming nearly to points. The delicate "feathers" densely populate the matrix plates, on which pinkish crusts of heulandite also host pale green, blocky fluorapophyllite crystals to 2 cm.

And what's a show report these days without news bulletins from China? Joining the already large, diverse family of Chinese **fluorite** types are a few large, skull-size specimens consisting solely of smooth hemispheres of purple fluorite without matrix. A couple of Chinese dealers in the hotel show had these, but the biggest three or four specimens I saw belonged to Rob Lavinsky of *The Arkenstone*, who was calling the very biggest of them "the turtle," since its size approximates that of the worst nightmare snapper you'd run from if you encountered it in a swamp. The fluorite itself is a translucent, luster-challenged bluish purple. The best locality designation that either Rob or I was able to elicit from the Chinese is "Jiangxi Province." Vastly prettier, though, are a couple of newly found specimens of spinel law-twinned fluorite from the great Yaogangxian mine, Hunan, showing flattened, transparent, palest lilac-colored fluorite twins to 3.5 cm rising from small matrixes coated with drusy pyrite. Rob Lavinsky is also handling these specimens.

There seems to be a bit of a locality-mystery surrounding some new Chinese specimens of **acanthite** offered by both Rob Lavinsky and Dr. Guanghua Liu of *AAA Minerals* (ghliu@aaamineral.com). Dr. Liu, author of *Fine Minerals of China* (2006), says that the new acanthites are not from the Hongda manganese mine, Shanxi Province—by now a familiar locality designation—but rather were found in November 2006 in another mine, called the 66 Line mine, not far from the Hongda mine. Like the earlier specimens, the new thumbnails and miniatures which were on view in Liu's room at the InnSuites display nests of wire silver rising from dull gray, subhedral to euhedral crystals of acanthite. However, Rob has a 5 × 6-cm specimen, presumably from the "66 Line mine," which is quite different, and much prettier: a leafy-looking group of *lustrous* metallic gray, flattened acanthite crystals to 2.5 cm without matrix or associations.

Going into this show I was resolved to sleuth for examples of the superb new red **wulfenite** about which Wendell Wilson and Marcus Origlieri wrote in the recent China issue (Jan.-Feb. 2007)—the wulfenite, I mean, from the still-mysterious locality in the Kuruktag Mountains, Xinjiang Uygur Autonomous Region. It turned out that the material wasn't *that* hard to find, for at the Main Show Rob Lavinsky had about 25 superb specimens, from small miniatures to a matrix plate 30 cm across. And in the big white house which neighbors the InnSuites (see above), Daniel Trinchillo had about 1,000 specimens of diverse sizes and qualities. And a dealer at the Executive Inn show, Lisa Li of *Unite Zyl Int'l Inc.* (liqing21@hotmail.com), had about 15 matrix specimens from 7 to 12 cm across, plus about 30 fine thumbnails (I picked up one of the latter for $20, though Lisa's prices for her larger pieces ran to the low four figures). As the pictures in the article show, the wulfenite crystals are typically thin-tabular and are found both in loose, jumbled groups and as thick coverages on earthy brown matrix material. In color the crystals range between medium-orange (Old Yuma mine) and intense orange-red (Red Cloud mine), and in size, as the article says, they generally top out at 4 cm on edge, although some of Dan's specimens boast crystals approaching 5 cm. Seeing all of these examples in Tucson suggests two upbeat observations: (1) this is, at its best, truly world-class wulfenite, and (2) thanks to the quantity of specimens, it is likely to be plentiful on the market for a while.

Concerning the final Chinese item, namely very fine **euclase**, available knowledge is much skimpier—and (to impart a positive spin, here) future prospects thus seem even more exciting. During the period of set-up of the "what's new in minerals" case at the

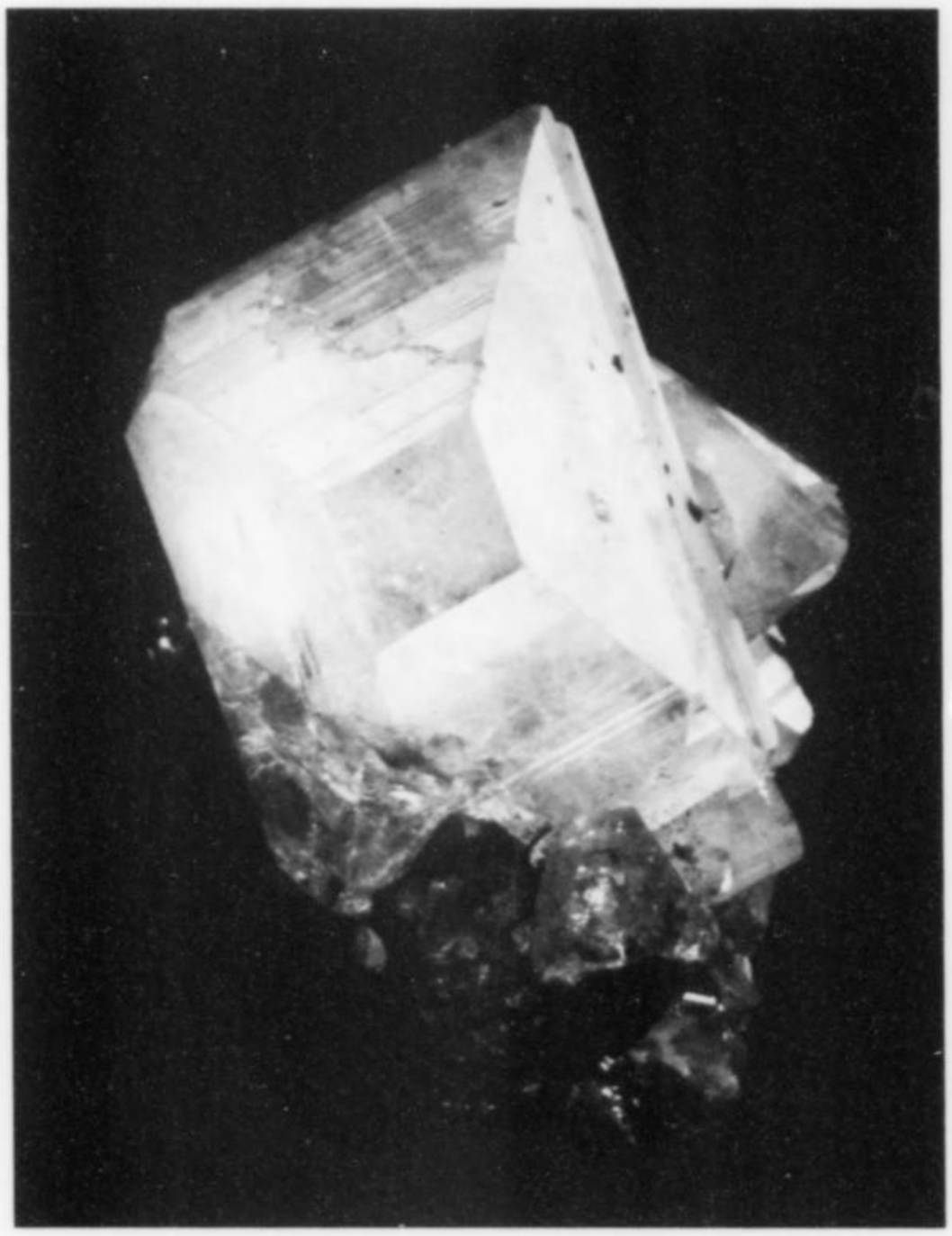


Figure 16. **Euclase, 2.5 cm, from the Zhongyi mine, Jiangxi, China. Jürgen Tron specimen; Jeff Scovil photo.**

Figure 17. **Crocoite crystals on matrix, about 23 cm, from the Adelaide mine, Dundas, Tasmania. Exhibited at the Tucson Show by the Adelaide Mining Company; Wendell Wilson photo.**

Figure 18. **Chalcocite crystals to 1.25 cm, from the 4765 Level of the Mammoth mine, Mt. Gordon, Queensland, Australia. Rob Lavinsky specimen and photo.**

Clarion, Jürgen Trön, who had been checking out the new Quality Inn-Benson Highway show venue, brought from there, to display in the case, a downright amazing thumbnail of euclase purportedly from a locality called the Zhong Yi mine, Jiangxi Province. Jürgen had found the specimen, with a handful of its lesser brethren, amid a sea of quartz and calcite on an "outside" table at the Quality Inn. The dealer gave his name as Zhao Hong, but Jürgen didn't get the dealership's name, and subsequently not even my spies were able to locate the little euclase hoard at the hotel. But the Scovil photograph here should convey why this little specimen was the hit of the "what's new" case. The euclase crystal, resting on a bit of brown matrix, is very sharp, lustrous, colorless and transparent, and measures more than 2 cm. *Vielen Dank* to Jürgen Trön for spotting this specimen and bringing it to the Clarion, and for generally helping out with "what's new."

Given that this was Australia's year at the Main Show it's fitting that there are two Australian items with which to conclude the tour. Adam Wright of The Adelaide Mining Company Pty. Ltd. (www.theadelaidemine.com) showed up at the Main Show with hundreds of first-rate specimens of **crocoite**, ranging to large-cabinet size, from a huge pocket (called the Premier Pocket) which was hit in April 2006 in the Adelaide mine, Tasmania. See last October's posting of "what's new in the mineral world" on the *Mineralogical Record* website (www.MineralogicalRecord.com) for a picture of part of this luscious pocket in place. Tasmanian crocoite lives! and seems even to get more abundant with time. Then there is the fine **chalcocite** now beginning to trickle, not from the Telfer gold mine in Western Australia (these superb specimens were first seen in Tucson at the 2000 show) but from the Mammoth mine, Mount Gordon, 130 km north of Mt. Isa, Queensland. Here, thin-tabular, very sharp, metallic black chalcocite crystals reaching 1.25 cm (in specimens seen so far) cover matrix. The photo shown here comes from Rob Lavinsky, who was the only dealer at Tucson this year to have a line on the occurrence. Obviously this is one for the future, and (we hope) for future show reports in this space.

DISPLAYS

One wearies a bit of hearing attempts at wordplays involving "Aussie," "mate," "down under," "outback," etc., but nevertheless the Main Show's Year Of Australia was the expected dazzlement of fine displays. Of course there were many cases—long rows of them—showing off Australian opal, fossils, and lapidary materials and art, but more to *our* point there were wondrous displays of crystallized Australian minerals, some very surprising and (therefore) educational. Minerals of Broken Hill, New South Wales was the exclusive theme of cases by the Smithsonian, the Broken Hill Geo Center, Milton Lavers, and Robert Sielecki. Most "educational" for me in the Broken Hill department were the Smithsonian's 7-cm

Figure 19. **Bryan Lees' exhibit of "Colorado Classics" from his personal collection, shown first in the lobby of the Westward Look Show, then taken down and redisplayed (with a few exceptions) at the Convention Center. Wendell Wilson photo.**

cluster of sharp crystals of native antimony and stibnite, with bright metallic crystals of antimony to 1 cm, and, in the Natural History Museum of London's "general" Australian case, a matrix studded with sharp, brilliant blue cubes of boléite to 1.25 cm on edge, collected at Broken Hill, the label said, in 1894.

Cases (besides the London museum's) which presented minerals from all over Australia included those of the Rice Northwest Museum, the American Museum of Natural History and Rob Sielecki. There was even a donor case showing minerals (mostly zeolites) from New Zealand. Cases on special Australian topics included several by the Western Australian Museum (niobium and tantalum minerals of Western Australia; minerals of Whim Creek; Australian gold nuggets and crystal specimens); Virginia Tech (Argyle diamonds and inclusions in same); Harvard (Australian gold); the Geological Survey of New South Wales and the Mineralogical Society of New South Wales (both showing assorted New South Wales minerals); Dehne McLaughlin and Paul Melville (minerals of the Northern Territory); and Adelaide Mining Company (a huge and dramatic case of crocoite from the Adelaide mine). Peggy Williamson toured me around the several cases she had helped mount for the University of Wollongong. Among these were "Australian Type Minerals," "Significant Australian Mineralogists," and a fascinating case called "Rare, Recent, Rescued," wherein were displayed, among other recently rescued rarities, two exceptional thumbnails of Telfer mine chalcocite, fine almandine specimens from Ireland's quarry near Broken Hill, and a 15-cm mass of native lead newly found somewhere in the Broken Hill workings. Six superb Australian golds were shown by Ian Bruce and Wayne and Dona

Figure 20. **Rob Sielecki's exhibit of Australian specimens. Wendell Wilson photo.**

Figure 21. **Elbaite with quartz and albite, about 60 cm wide (!), from the Pederneira mine, Minas Gerais, Brazil. Daniel Trinchillo specimen; Wendell Wilson photo.**

Figure 22. **Azurite crystals on malachite, 14.4 cm, from the Liu Feng Shan mine, Anhui province, China. Stuart Wilensky specimen; Wendell Wilson photo.**

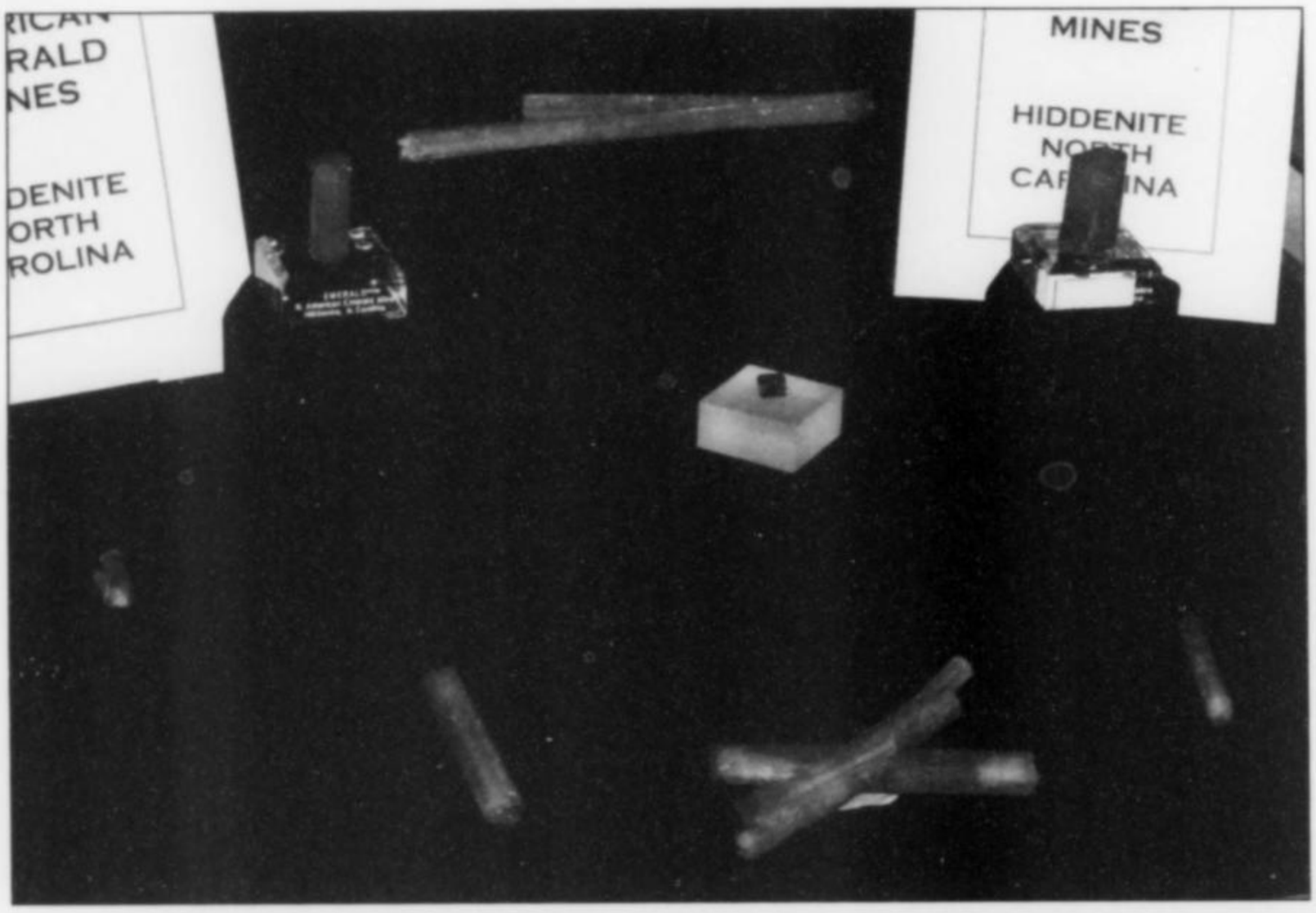


Figure 23. **Emerald crystals from the North American Emerald Mines, Hiddenite, North Carolina. Wendell Wilson photo.**

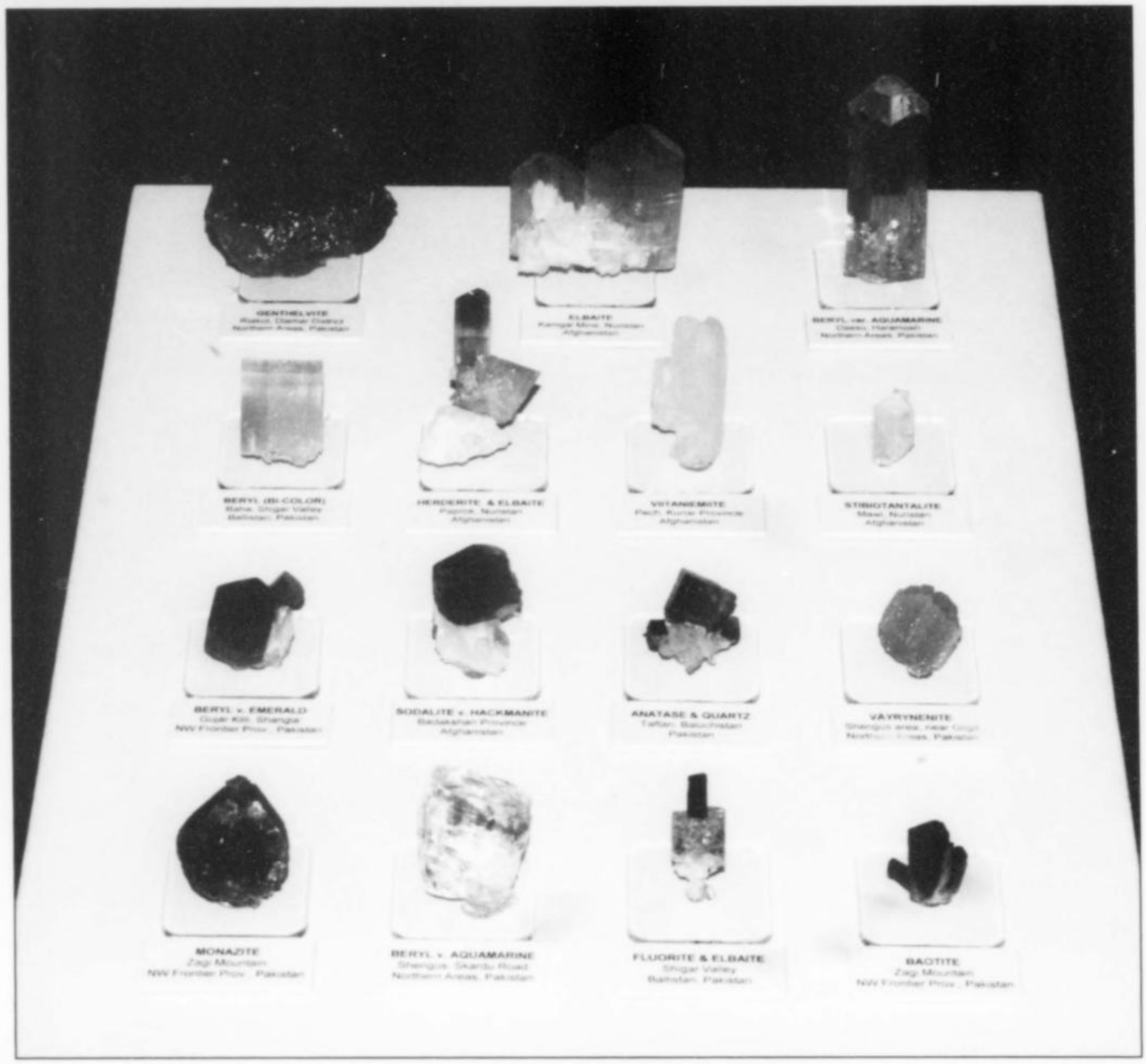


Figure 24. **Some extraordinary Pakistan-Afghanistan specimens exhibited by Herb Obodda. Wendell Wilson photo.**

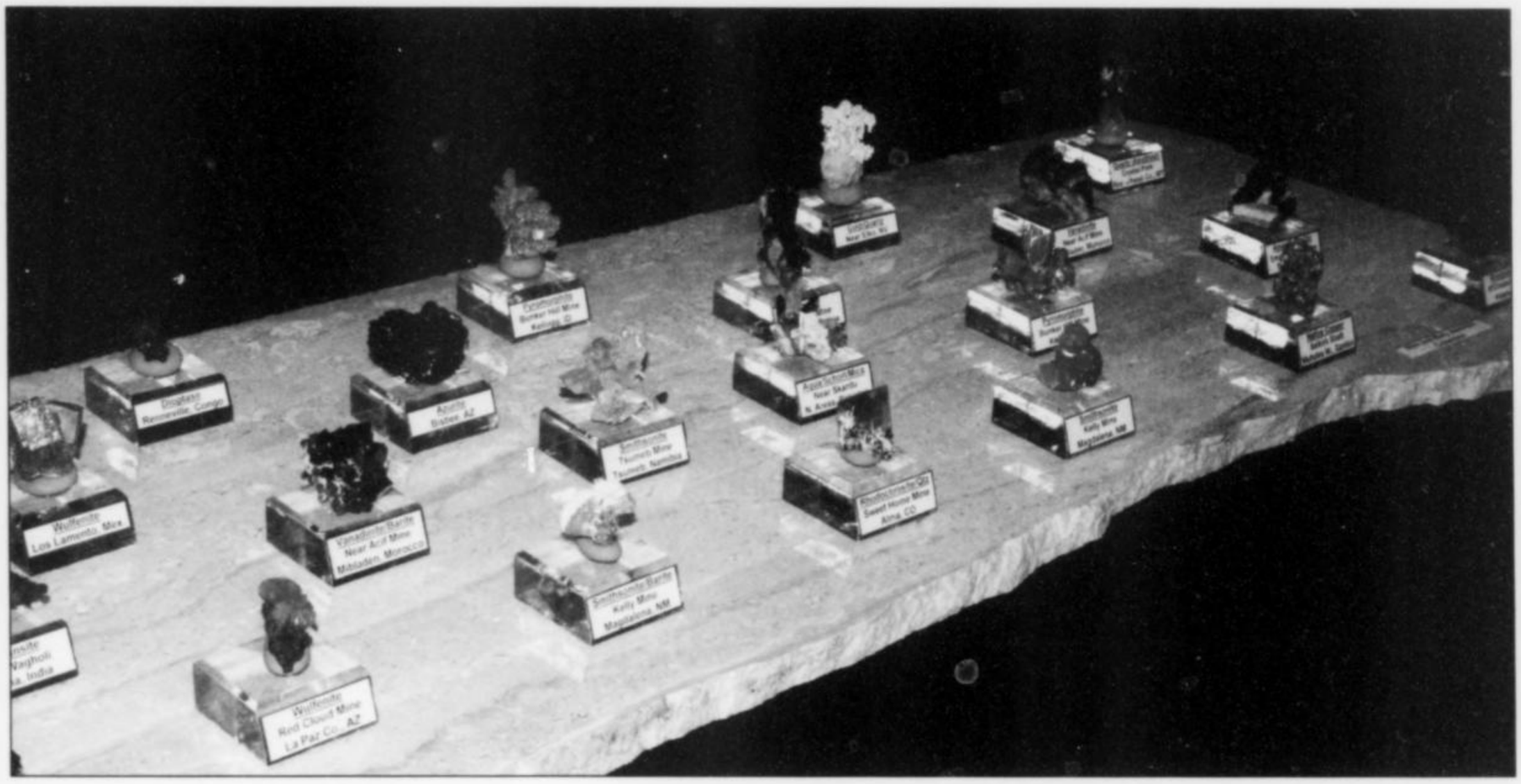


Figure 25. **Miniatures exhibited by Mike and Mary Jaworski. Wendell Wilson photo.**

Figure 26. **Aquamarine crystal cluster, about 18 cm, from the Shigar Valley, Northern Areas, Pakistan—the centerpiece of the Gene and Roz Meieran exhibit of gem crystals.**

Leicht . . . and, mate, not even all of the cases just listed exhaust the Show's treatment of the Australian theme. As usual, my apologies to those who put in displays which space limitations preclude me from noting, or which I simply missed seeing.

Among the non-Australian displays were huge spreads of beautiful mixed specimens by Keith and Mauna Proctor, Bill and Elizabeth Moller, the Royal Ontario Museum (14 fine pieces from the recent Louise Hawley Stone Bequest), the Houston Area Mineral Society, the "Mineral Minions of Arizona," and Steve Smale (wonderful miniatures here, my favorite having been an antique pale lilac 5 × 5-cm anhydrite crystal from the Simplon Tunnel, Switzerland). Then there were cases devoted to worldwide pyrite specimens (a bright, shining array of superb small pyrites from the Jim Bleess and Phil Richardson collections); Alpine cleft minerals of the Northern Areas, Pakistan (Bill and Carol Smith); Indian zeolites (Carnegie Museum); the Ben Frankenberg Bisbee collection (Natural His-

Figure 27. **Mark Weill's competitive exhibit that won for him the Desautels Award. Wendell Wilson photo.**

tory Museum of Los Angeles County—see curator Tony Kampf's article in July-Aug. 2006); Bisbee azurite (Arizona-Sonora Desert Museum); mixed Bisbee specimens (Bisbee Mining & Historical Museum); fluorite from the North Pennines Orefield, England (Jesse Fisher and Joan Kureczka); "Olde English" (8 superb English specimens from the collection of Wally Mann); five enormous Indian fluorapophyllites (Georges and Diego Claeys and Arvind Bhale); assorted calcites (University of Arizona Mineral Museum); calcite twins (Gene and Doris Wright); the history of copper collecting at the Chino mine, New Mexico (New Mexico Bureau of Geology and Mineral Resources); minerals of the U.S. (11 extraordinary specimens from the collection of Irv Brown); native elements (the Mineralogical Association of Dallas); andradite specimens from Alamos, Sonora, Mexico (self-collected by Marty Houhoulis); and a fine small case about Arizona mining history, with old postcards and stock certificates, miners' lamps, Bisbee specimens, etc. (the Sterling Hill Mining Museum, Ogdensburg, New Jersey—!).

As usual, there were a few cases crying out for more extended description. Rob Lavinsky put in a big case of quartz specimens from the Orange River, Namibia region, these just acquired by him from the Charles Key collection. In fact this was a Janus case which faced two ways, one side being red (hematite-included quartz) and one purple (amethyst). Along the same lines, Marshall Sussman had a big case packed with specimens, mostly scepters, from *his* superb collection of southern African quartz. In a single large case Daniel Trinchillo showed a single *very* large specimen: a pegmatite phantasmagoria measuring about 2 × 2 × 3 feet, from the Pederneira mine, Minas Gerais, Brazil. It has totally gemmy, deep green, terminated elbaite crystals to 25 cm bristling all over a cluster of giant, transparent, pale citrine quartz crystals with greenish white crested mounds of "cleavelandite" albite. Gene Meieran's "Colored Beryl" case wowed crowds with its giant gem crystals and, backstage center, a breathtaking matrix aquamarine specimen with a jumble of vibrant gem prisms to 14 cm long rising from a chunk of white pegmatitic matrix. From Bryan and Kathryn Lees' personal collection of "Colorado Classics" there were 36 world-beating items including a fantastic Breckenridge gold, the famous "Barlow" wire silver specimen from the Bulldog mine, a "rabbit-ear" Mount Antero aquamarine on matrix, a superb enargite from the Longfellow mine, fabulous rhodochrosites from the Sweet Home and other Colorado mines, and so on. This collection was shown first in glass cases set up in the lobby of the Westward Look Show, but only for one day, so it was a pleasure to see it ensconced again for four whole days at the Tucson Convention Center.

Finally, and especially for fellow thumbnail/toenail enthusiasts, I'll mention Herb Obodda's personal collection of thumbnail and small-miniature specimens from Pakistan and Afghanistan. This was just a small case (with two pictures of Herb, in native Hindu Kush garb and toting mean-looking defensive weapons), and was placed inconspicuously in the hall, but most of the little specimens were well-nigh unbelievable. They included a gemmy, vibrantly reddish purple 1.5-cm euhedron (on matrix) of sodalite; a pristine, bright orange, wedge-terminated childrenite; the world's finest gem crystal of väyrynenite; a 1.5 × 3-cm, totally gemmy bastnäsite-(Ce) prism; a gemmy pink, 2.5-cm pezzottaite crystal from Afghanistan; a small but screaming bright yellow stibiotantalite crystal; a superb emerald cluster from Pakistan, and more—45 pieces in all. It was enough to make a thumbnail collector think about switching to baseball cards or lawn ornaments.

AWARDS

The TGMS awards for the best Australian thumbnail, toenail, small cabinet and large cabinet specimens were won respectively by Carolyn Manchester, Ralph Clark, Claudia Watson and Gene

Figure 28. **Jack Halpern's competitive exhibit—the zoisite (tanzanite) crystal in the center won for him the Lidstrom Award. Wendell Wilson photo.**

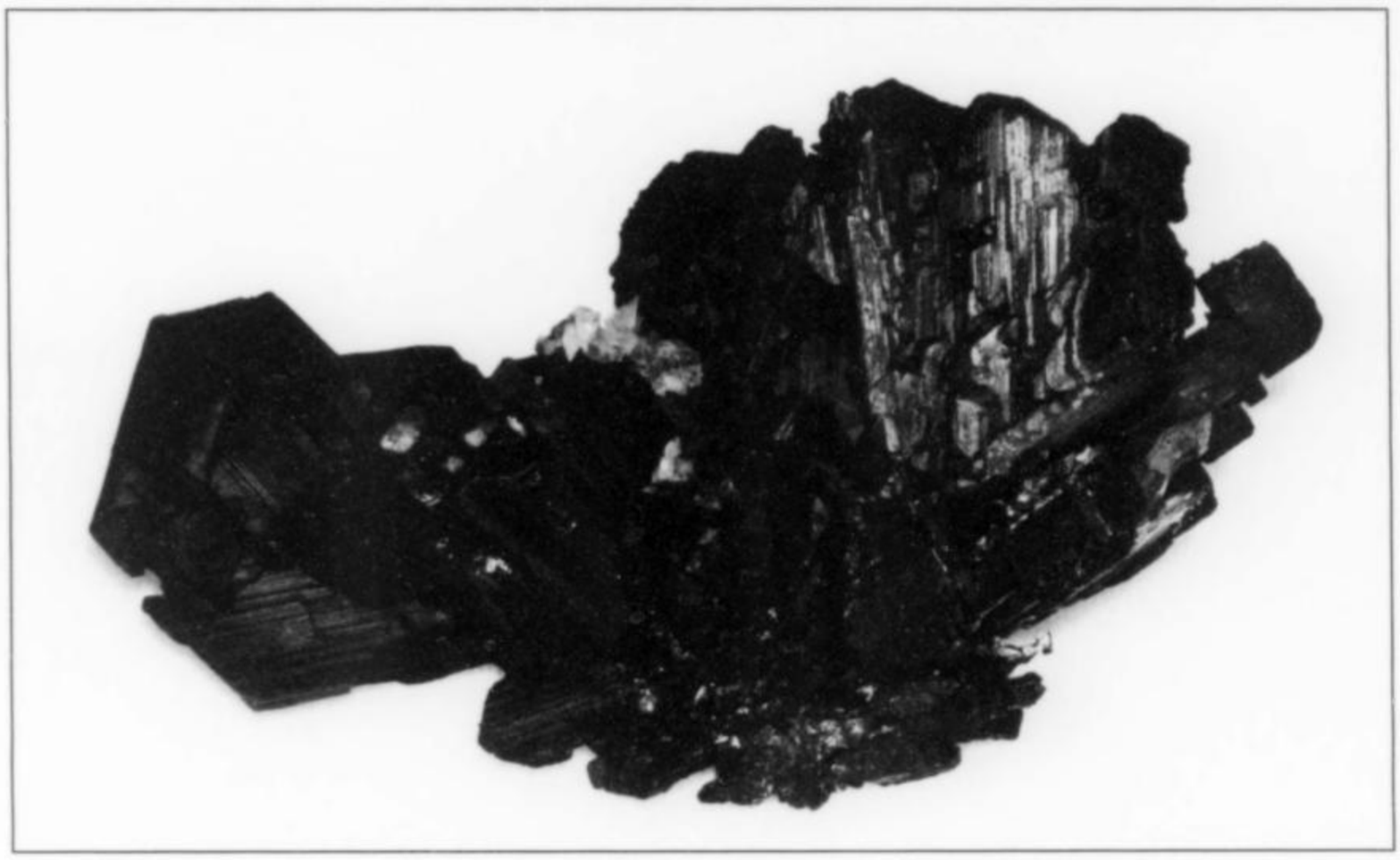


Figure 29. **A remarkable old classic chalcocite crystal cluster, 12.5 cm, from the Bristol copper mine, near Bristol, Hartford County, Connecticut. Jack Halpern exhibit; Wendell Wilson photo.**

Reynolds. Elsewhere in the best-specimen "regionals" category, Evan Jones won the Romero Trophy for best Mexican specimen, and Steve and Carol Maslansky snagged the Richard Bideaux Award for best specimen from Arizona.

An emotional moment in the Saturday night awards ceremony came when Rob Lavinsky presented checks for sums ranging up to $500 to several young collectors who had put cases in at the Main Show. Rob explained that it was his intent, not only to encourage the rising generation, but to memorialize two now deceased mentors, Carlton Davis and Bill Cook, who had helped, encouraged and educated him during his own novice years as a mineral collector.

Two special awards were presented, and gracious speeches made by their winners. Marie Huizing, managing editor of *Rocks and Minerals* magazine, was given the American Mineralogical Society's Distinguished Public Service Award, and the Mineralogical Association of Canada's Pinch Medal for contributions to the science of mineralogy went to Lázsló and Elsa Horváth. Awards for the best educational cases went to Georg Gebhard (individual) and the California State Parks Department (institutional). Not at all surprisingly, the Friends of Mineralogy award for best article in the *Mineralogical Record* in 2006 went to Bruce Cairncross and Uli Bahmann for their huge monograph on Erongo Mountains, Namibia mineralogy which filled nearly the whole of the September-October 2006 issue. The Friends also bestowed the award for the best 2006 article in *Rocks and Minerals* on Mark Mauthner and Carl Francis, and the award for the best 2006 *ExtraLapis English* article on Ross C. Lillie.

Only two cases vied this year for the Desautels Award for "best rocks in the show"; Mark Weill won it for his fabulous case, but not without friendly/stiff competition from Jack Halpern, whose case was right next door to Mark's. Jack's not inconsiderable consolation prize was the Lidstrom Award for best single specimen in the show—his extraordinary fist-size zoisite (tanzanite) crystal from Tanzania.

This year's Carnegie Museum of Natural History Mineralogical Award for contributions to mineralogical preservation, conservation and education went to Richard C. Whiteman of Ontonagon, Michigan, in recognition of Mr. Whiteman's decades of devoted work in specimen recovery from the mines of Michigan's "copper country," his work in training teachers of geology and mineralogy,

his operation of the Great Lakes GeoScience Press, and many similar endeavors all tending towards the enrichment of mineralogy in the U.S.

NEXT YEAR . . .

A *truly* special and unprecedented theme is planned for Tucson 2008: *America's best mineral localities of all time*. It will feature an extensive series of invitational group-cases devoted to the very best specimens from 50 (or so) of the greatest mineral localities of the United States, selected from private collections and public museums worldwide. A 350-page coffee-table book will be released at the same time (now being prepared by a team of authors and photographers headed by the project's organizational chief Gene Meieran, publisher Gloria Staebler and senior editor Wendell Wilson) whose chapters will describe the collecting and specimen-production histories of all 50 places. It promises to be spectacular beyond words, and a once-in-a-lifetime opportunity to see so many treasures of the (American) mineral world all in one place. May the Tucson Gem and Mineral Society count on your attendance?

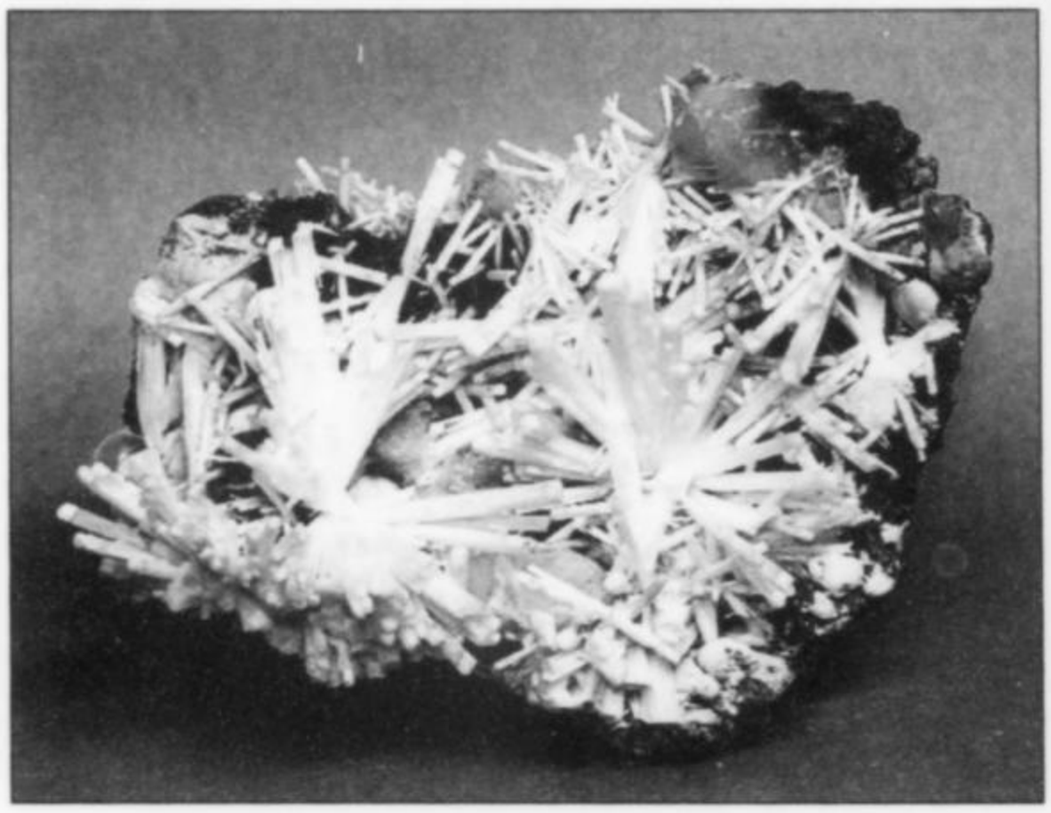


Figure 30. **Natrolite crystals on basalt, 10 cm, from the Millington quarry, Somerset County, New Jersey; collected in 2006. Frank Imbriacco specimen and photo.**

Millington, New Jersey — Wendell E. Wilson

Readers may recall the article on the Millington traprock quarry, Bernards Township, Somerset County, New Jersey which appeared back in September-October 2000. The Millington quarry has been in operation for over 110 years; however, unlike the other famous New Jersey traprock quarries (such as Paterson and Prospect Park), the Millington quarry has produced fine zeolites and associated minerals only since the late 1980's. Collecting has continued there sporadically since then, with varying results, but 2006 was one of the best years ever.

Figure 31. **Pink apophyllite rosettes with pyrite, prehnite and purple calcite, 9.2 cm, from the Millington quarry, Somerset County, New Jersey; collected in 2006. Frank Imbriacco specimen and photo.**

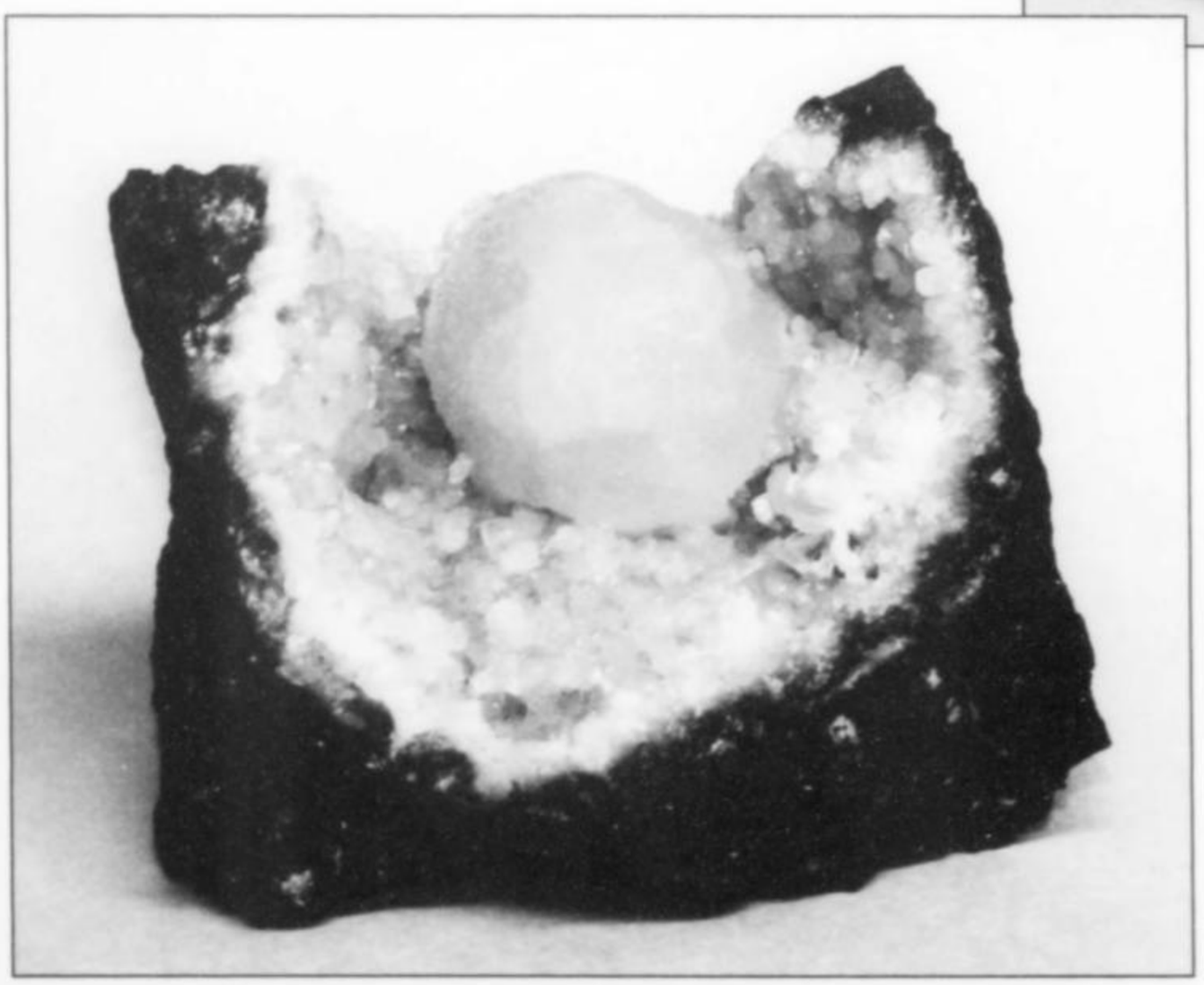


Figure 32. **Prehnite sphere on datolite, 7 cm, from the Millington quarry, Somerset County, New Jersey; collected in 2006. Frank Imbriacco specimen and photo.**

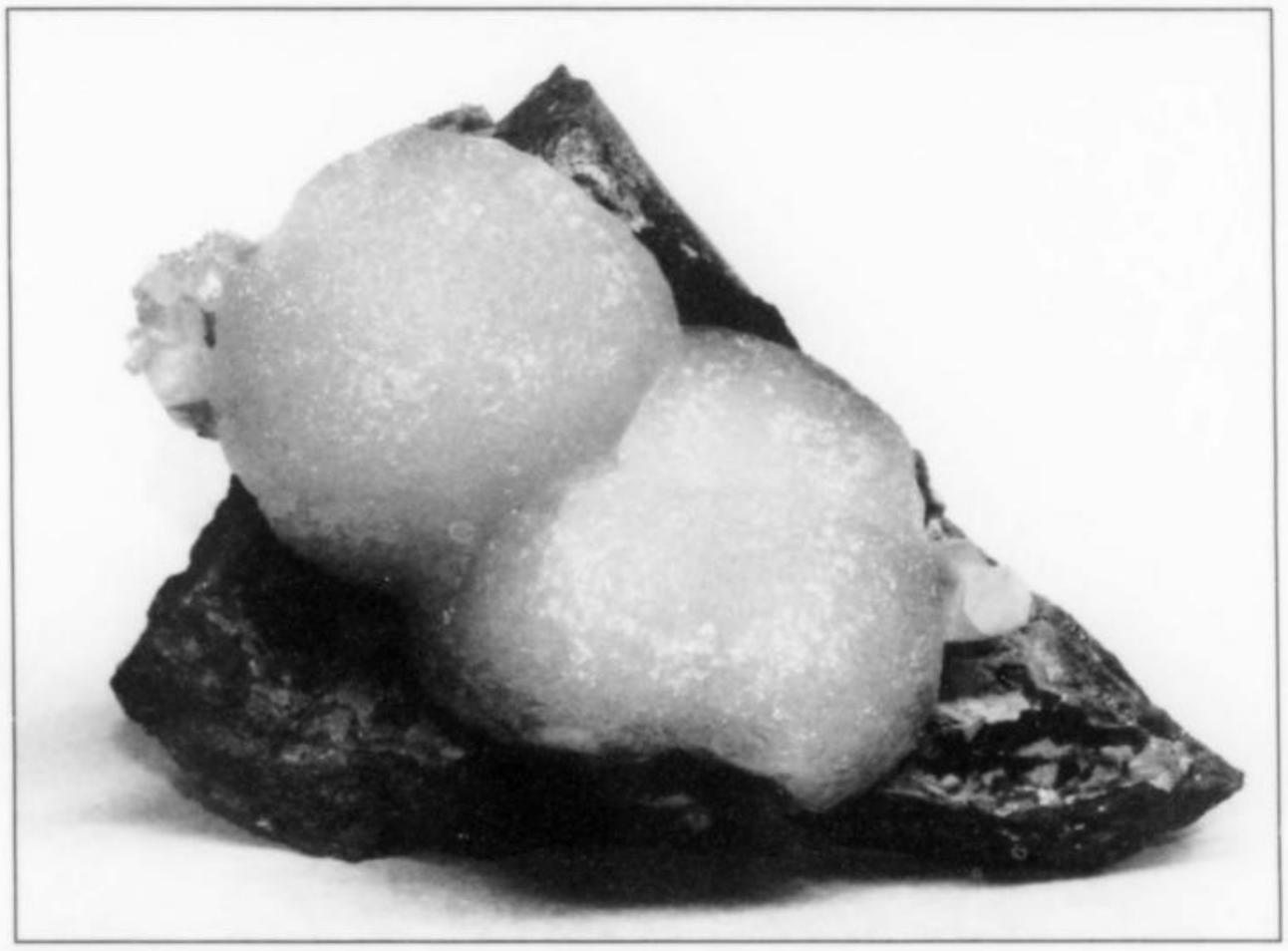


Figure 33. **Prehnite spheres with calcite, 9.5 cm, from the Millington quarry, Somerset County, New Jersey; collected in 2006. Frank Imbriacco specimen and photo.**

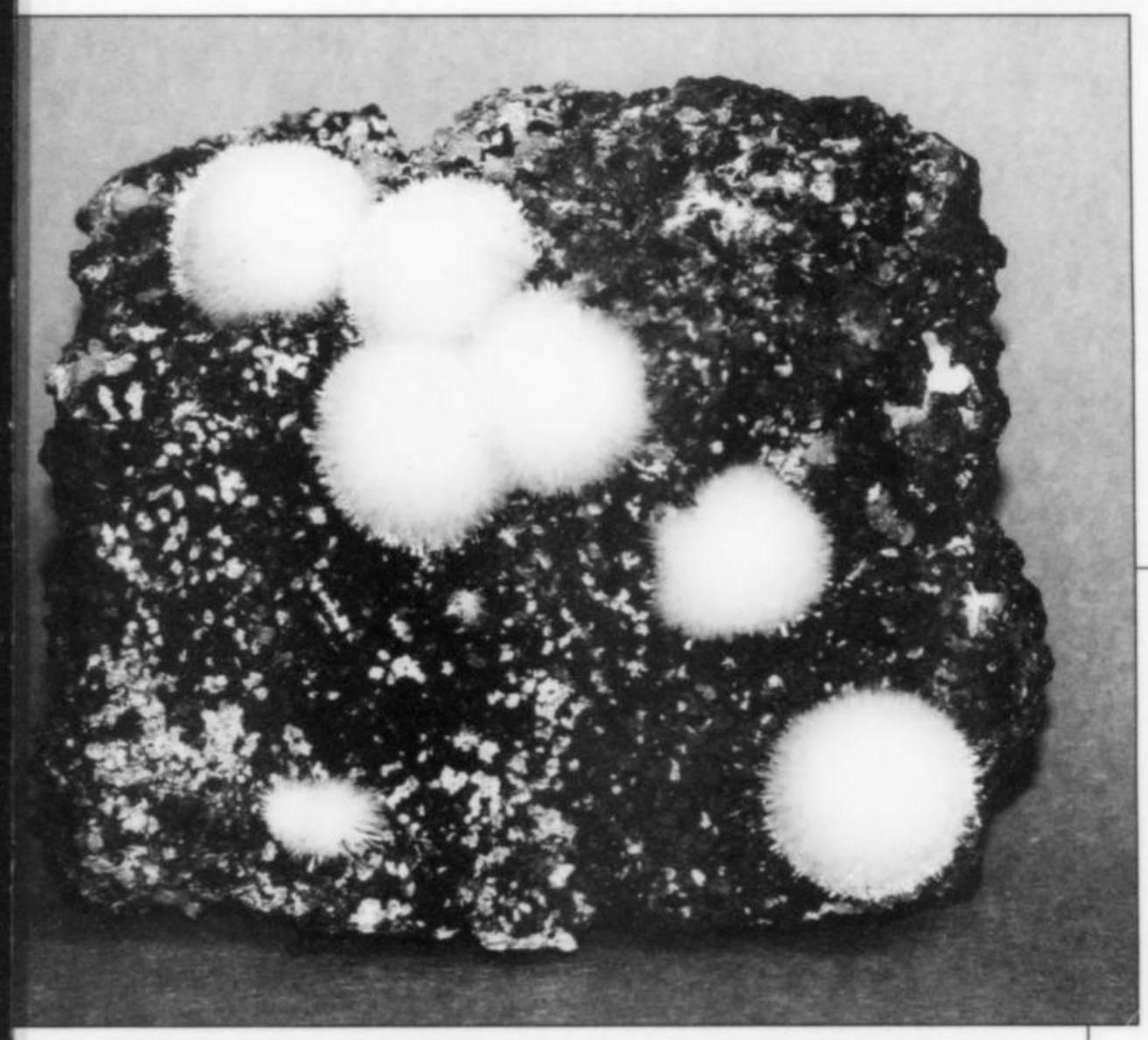
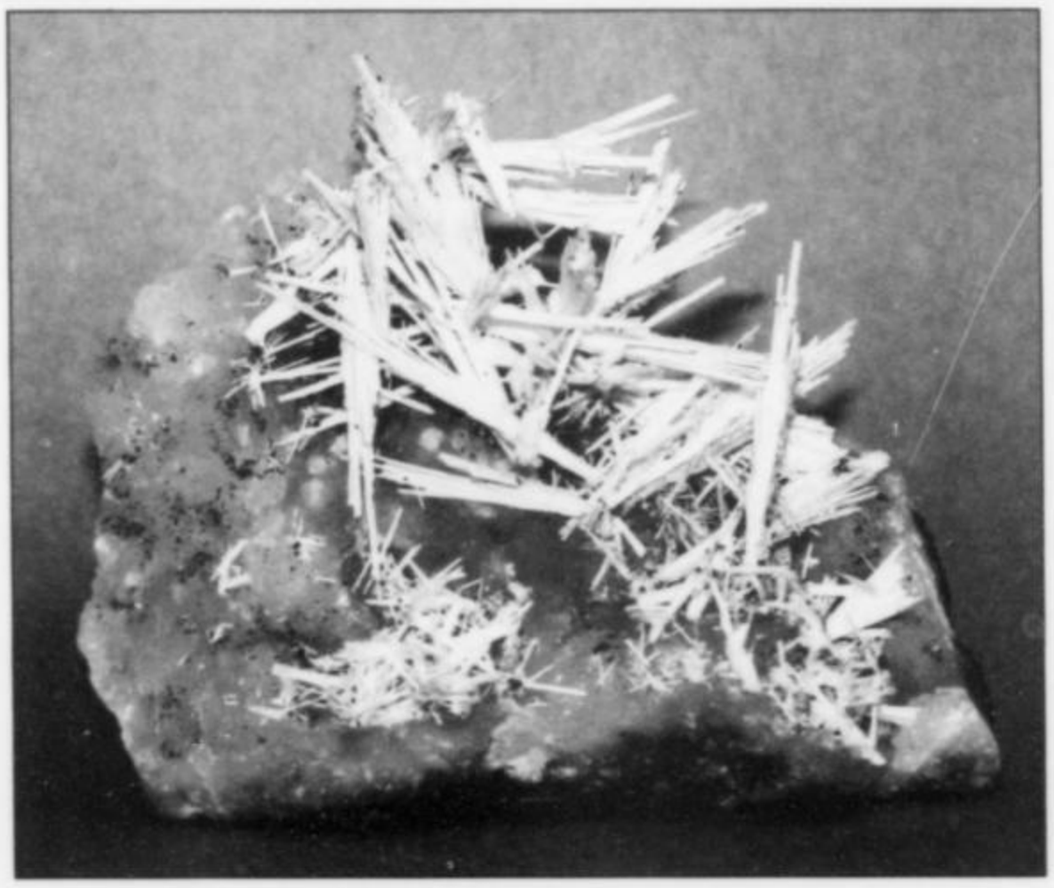


Figure 34. **Natrolite spheres on basalt matrix, 7.6 cm, from the Millington quarry, Somerset County, New Jersey; collected in 2006. Frank Imbriacco specimen and photo.**

Figure 35. **Reddish pectolite spheres on matrix with heulandite, 8 cm, from the Millington quarry, Somerset County, New Jersey; collected in 2006. Frank Imbriacco specimen and photo.**



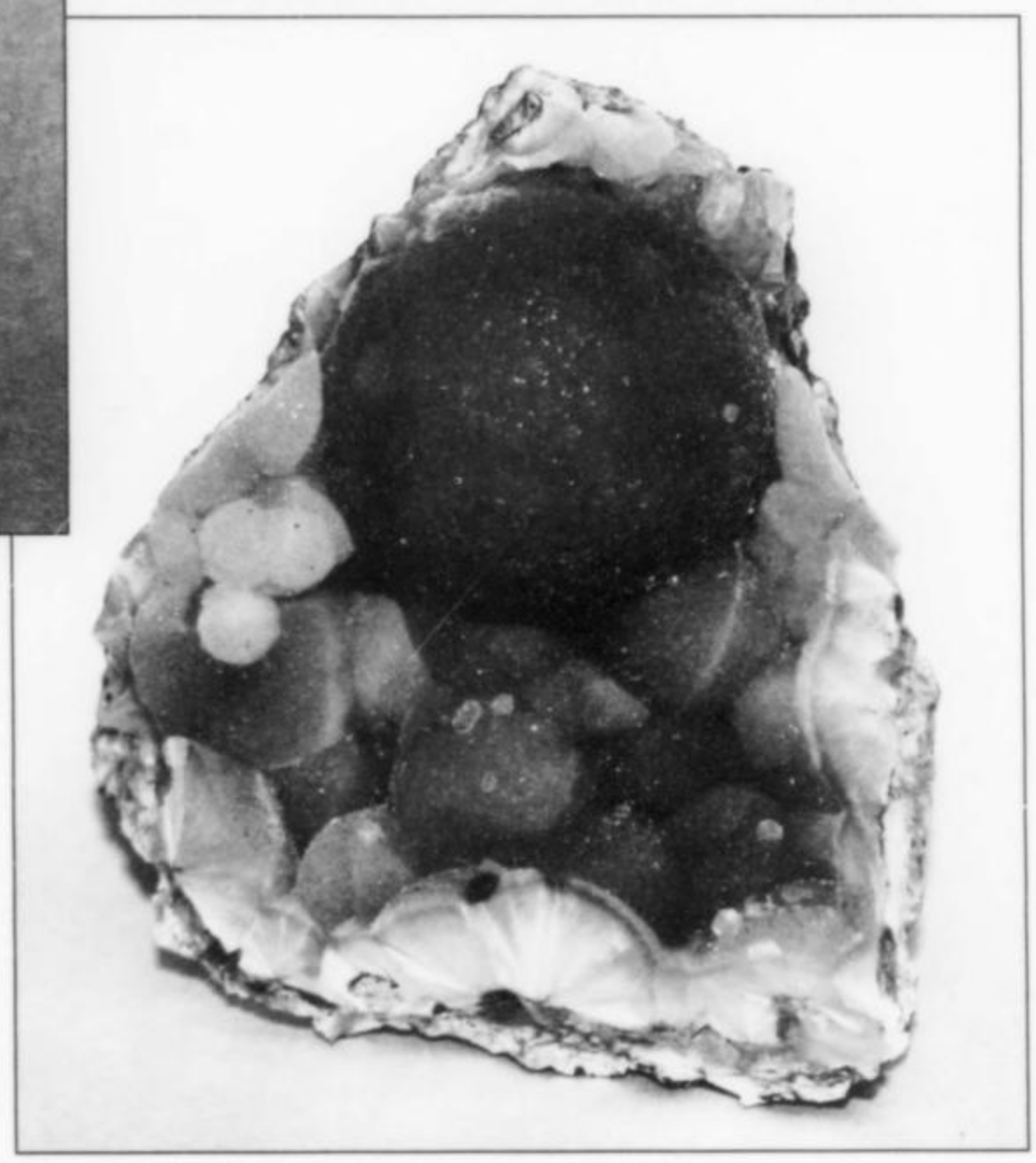


Figure 36. **Natrolite on datolite with pyrite, 8.3 cm, from the Millington quarry, Somerset County, New Jersey; collected in 2006. Frank Imbriacco specimen and photo.**

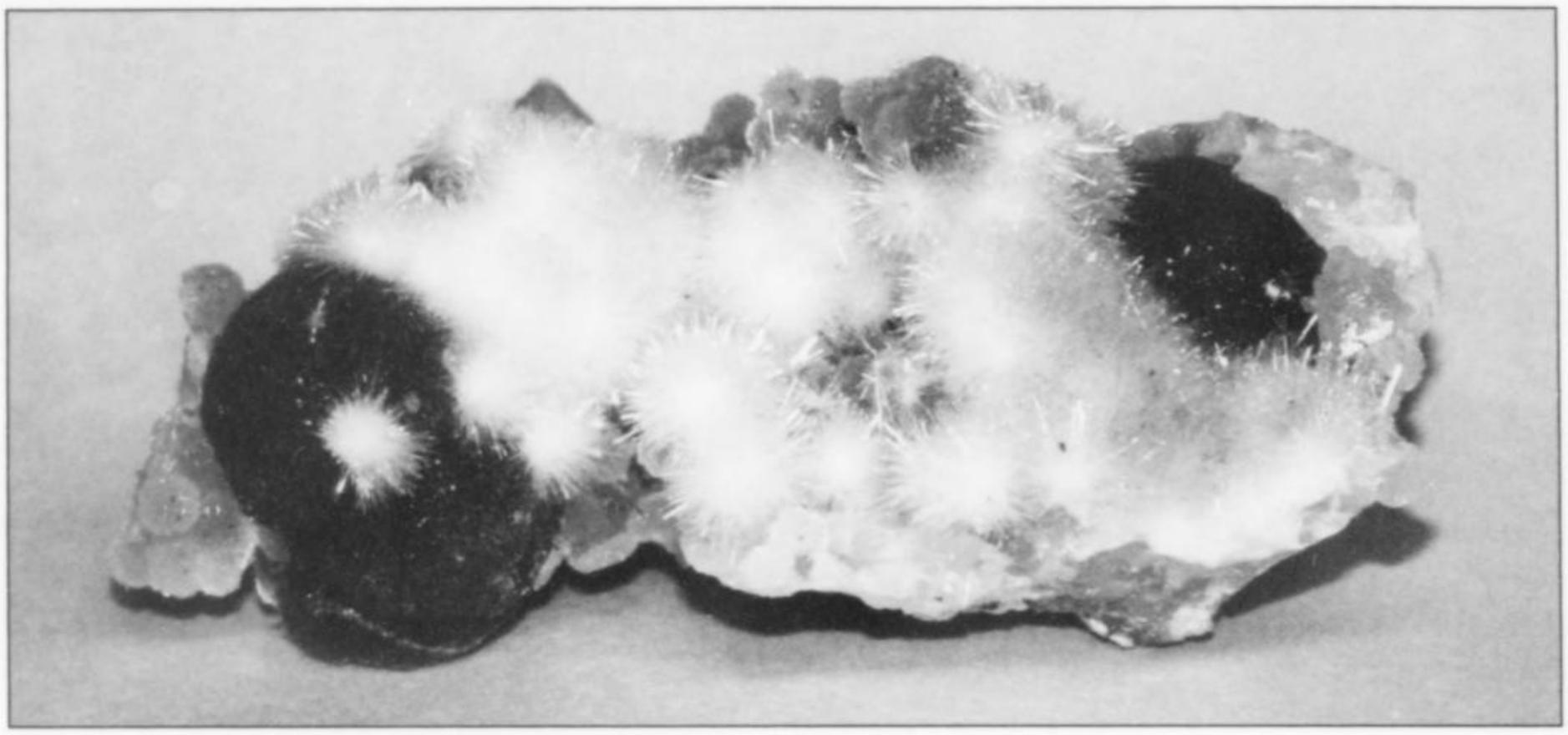
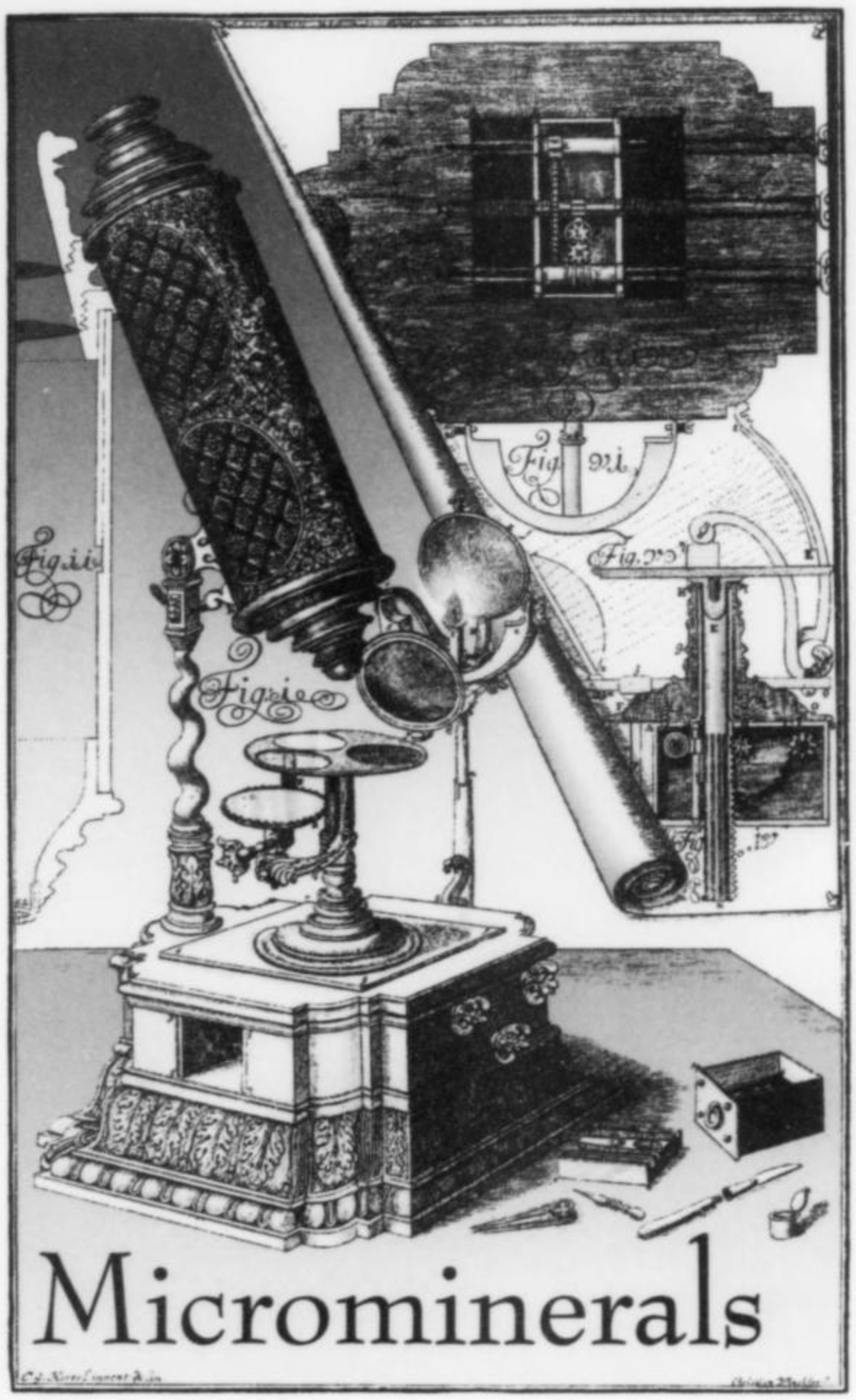


Figure 37. **Reddish pectolite spheres on matrix with white natrolite, 8.3 cm, from the Millington quarry, Somerset County, New Jersey; collected in 2006 Frank Imbriacco specimen and photo.**

The specimens pictured here were all collected in 2006 by Frank Imbriacco. During the last few years Frank and his collecting partner, James Zigras, have collected regularly at the quarry, with the permission of quarry management. Superb specimens of pectolite, natrolite, prehnite and apophyllite were found, individually and in combinations not seen before. The pectolite ranges in color from white to cream, pink, salmon, purple and green. Pink and green apophyllites have also been found, as have natrolite specimens showing many different habits. Unfortunately, as of this writing, the quarry operations had only one more blast to go in the mineralized zone where collecting has taken place, so this may be the last hurrah for the Millington quarry.

According to frank, two other working quarries in New Jersey have been producing fine specimens lately as well. One has offered up a series of localized prehnite-after-glauberite pockets from which hundreds of specimens have been collected. The other has been yielding fine stilbite specimens in many colors and shapes, as well as white to colorless and transparent stellerite crystals up to 3 inches. Frank is not divulging the names of those quarries just yet.



by Quintin Wight

Some Things Bug Collectors

A while ago, I was working away at the microscope when an insect suddenly appeared in my field of view. This happens to all of us from time to time. Usually, it's a tiny wanderer from field collecting, and though startling, it's not surprising. This one, however, was a surprise. It was dead, and it was not *on* the specimen, but *in* the specimen. As Figure 1 shows, it was under a layer of thermonatrite ($Na_2CO_3 \cdot H_2O$). Thermonatrite usually derives from the dehydration of natron ($Na_2CO_3 \cdot 10H_2O$), and there's plenty of natron in Mont Saint-Hilaire, where the specimen originated. The origin of the thermonatrite was clear. What was not clear (and still isn't) is why the insect was under the thermonatrite and not on top of it. Thermonatrite effloresces from cracks containing natron, but it shouldn't be climbing on top of things like bugs. A quick check with the Canadian Museum of Nature revealed that the insect was a silken fungus beetle (*Cryptophagidae,* probably *caenoscelis*), possibly from the forest floor above the quarry. As a bio-mineral specimen, it doesn't equate to malachite pseudomorphs after mice (like the one Rock Currier once reported having seen in the Fersman Museum in Moscow), but at 2 mm from stem to stern, it's the right scale for micromounters!

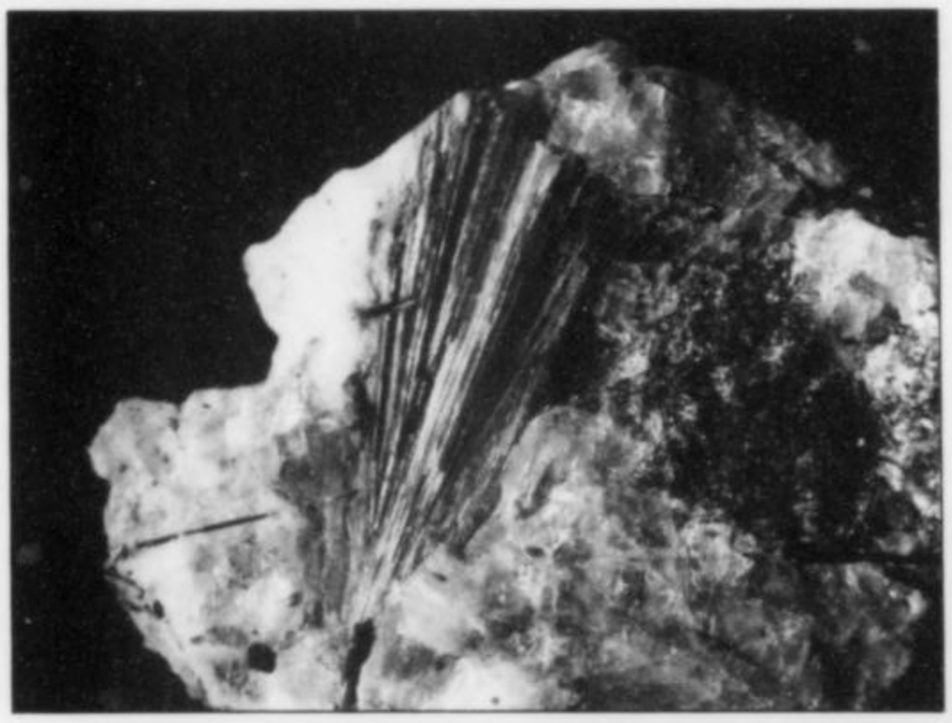
Other Things Do Exactly The Opposite

As coordinator for the Micromounters Hall of Fame, I carry out the induction ceremonies, during which I emphasize that the prime quality we seek in Hall of Fame members is generosity toward others. I had a prime example of that quality in July, 2006. A couple of days before a scheduled field trip to Mont Saint-Hilaire, I got a call from Dr. Pete Richards in Ohio, who told me that in May he had discovered a boulder containing unusual crystals of what had since been identified as tundrite (a mineral previously known from Mont Saint-Hilaire only as poorly crystallized specimens). He gave me precise directions on how to find that boulder. Following those directions, my wife Willow and I went to the quarry and tracked the boulder down. A nondescript chunk of breccia, it showed nothing on the surface, but a couple of whacks with a crack hammer revealed a golden crystal spray buried in analcime. A few more delicate strikes popped the spray into our hands—a beautiful 2.5-cm cluster of fragile, lath-like crystals. The specimen is now in the Canadian Museum of Nature, where Dr. Joel Grice and his associate, Glen Poirier, are working to refine the description of the mineral.

This story began with an act of generosity on the part of one person, but it is also the story of the ripple effect that such generosity can produce. Because Dr. Richards shared his information, Willow and I experienced the satisfaction of making a significant find in Mont Saint-Hilaire. I retrieved a couple of nice micromounts from among the fragments; the Canadian Museum of Nature acquired a worthwhile specimen; two scientists got to work with excellent samples of a hitherto inadequately described mineral; and there was a contribution to knowledge generally, in the refinement of the description of tundrite as a mineral species and of this particular occurrence at Mont Saint-Hilaire. That's a lot of response from a simple phone call, and it stands in great contrast to the stories we hear of people who squirrel their findings away and never let others know. "Cast thy bread upon the waters . . . ."

Figure 1. **A silken fungus beetle, probably *Cryptophagea caenoscelis*, beneath a crust of thermonatrite on a specimen from Mont Saint-Hilaire, Québec, Canada. The beetle is 2 mm in length.**

Figure 2. **The tundrite specimen from the breccia boulder. The crystal spray is 2.5 cm from top to bottom. It is in a matrix of pale gray analcime, shot through with aegirine needles. Photo: W. Wight.**



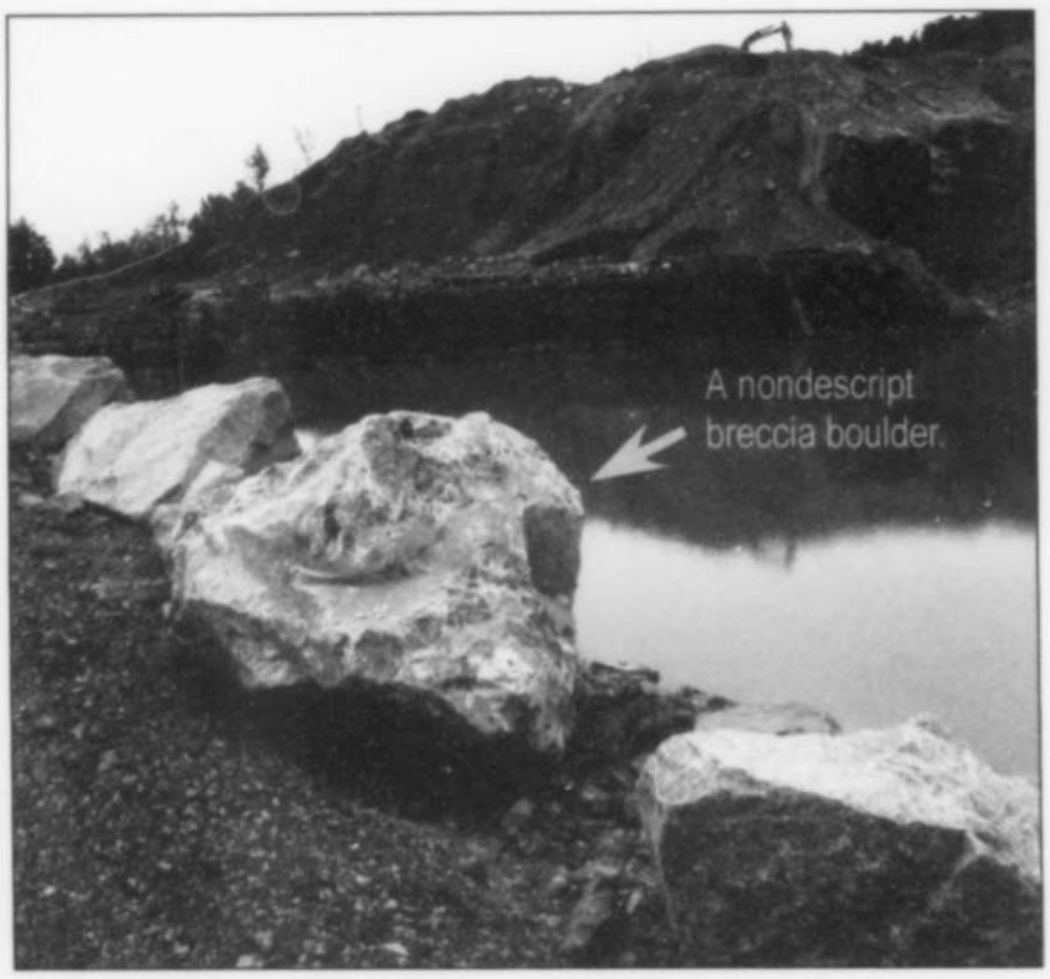


Figure 3. **The nondescript breccia boulder lining a road around a temporary lake in the Poudrette quarry at Mont Saint-Hilaire. The tundrite specimen described here came from an area just four inches from the black spot at the top, in the five o'clock position. Photo: W. Wight.**

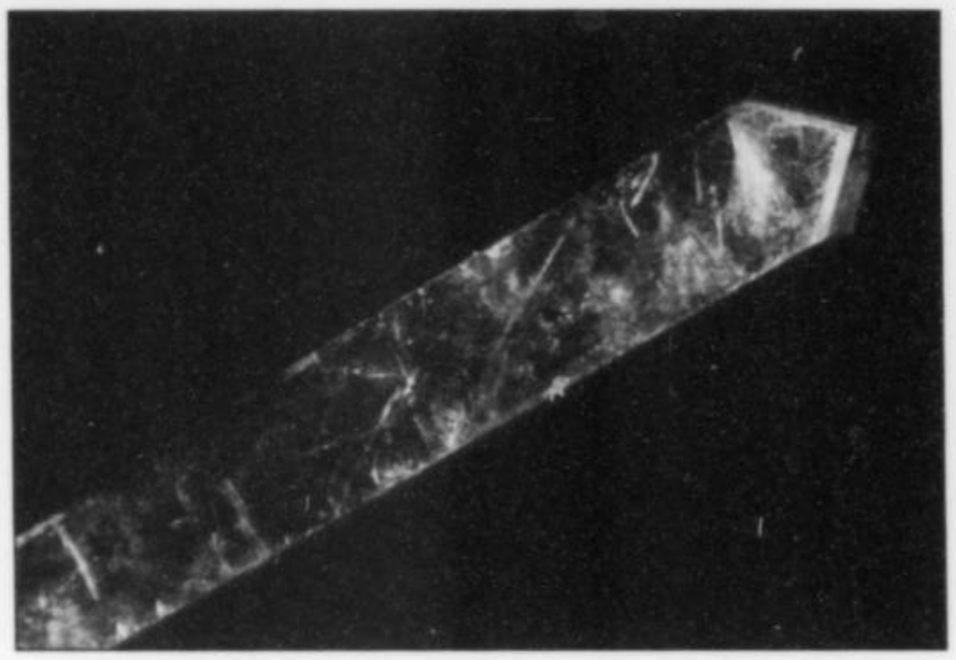


Figure 4. **A 7-mm section of a terminated tundrite blade from the find at Mont Saint-Hilaire.**

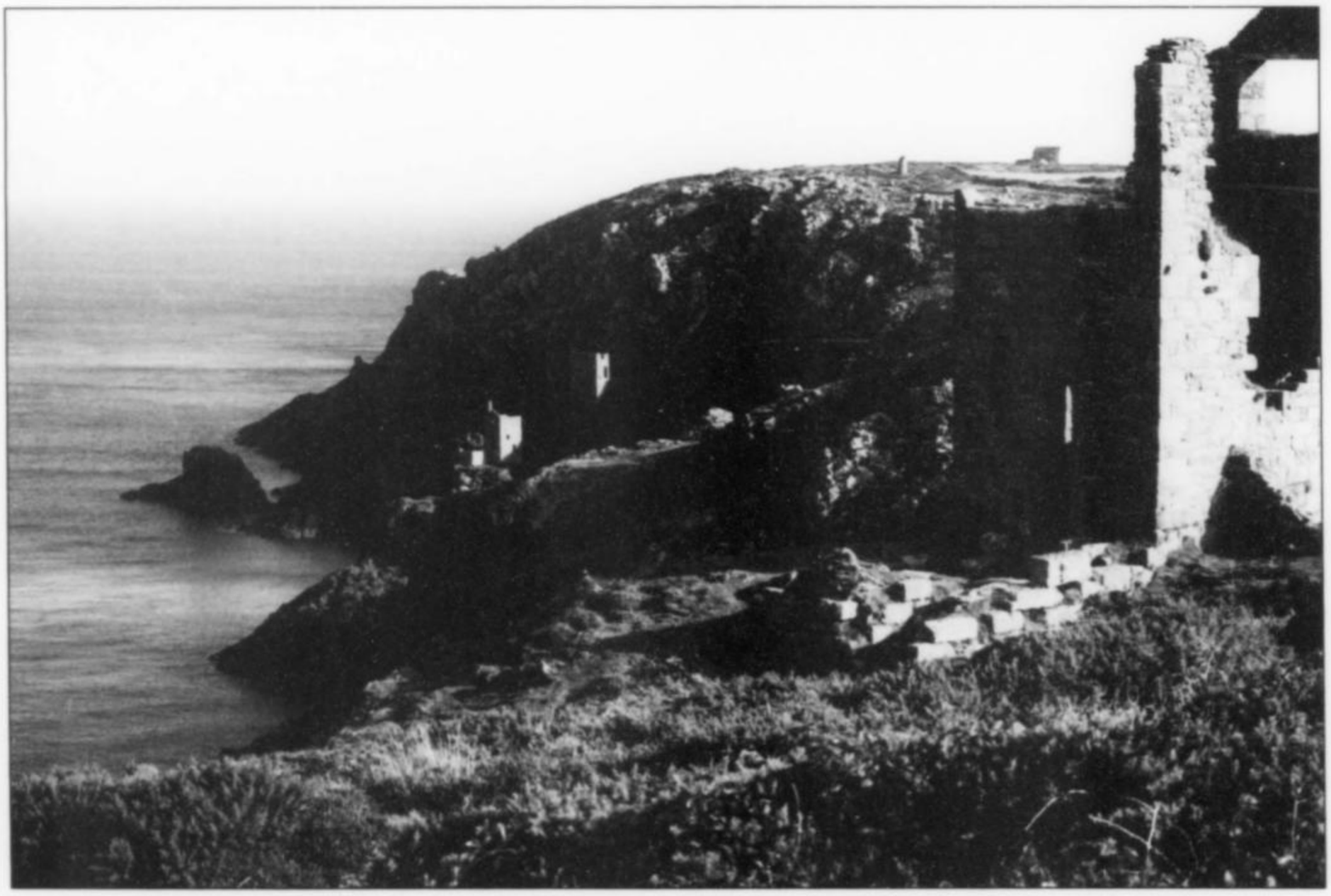


Figure 5. **One of the World's most photographed scenic spots—"the Crowns" engine houses of the Botallack mine. The upper house held the hoisting engine, and the lower, the pumping engine for an inclined shaft that ran 414 meters (1,360 feet) under the sea. It cannot be seen from this angle, but there is a vertical cliff on the far side of the upper house.**

Figure 6. **Dumps at the Botallack mine. This part of Cornwall has many dumps attractive to micromounters.**

The European Scene

I don't have many advantages as a mineral collector, but one of them is a cousin who lives in Botallack, Cornwall, surrounded by ruined engine houses, calciners, and dumps, and a mere ten-minute stroll from "the Crowns," where Botallack mine ruins perch on their cliff face above the sea. The dumps have long since been relieved of most of their major specimens, but still yield treasures for micromounters. In fact, micromounters wishing to tour and collect in comfort can do so by getting in touch with Sheila Harper in Newquay. Sheila runs a small hotel complete with rock shed and microscopes, and takes collectors on tours through the dumps. She can be reached at http://freespace.virgin.net/sheila.harper/.

Willow and I stopped for a quick visit with my cousin in September 2006, on our way to the micromount symposium in Cremona, and found, somewhat to our surprise, that at that time of year the tip of Cornwall is basically devoid of people. The dumps, when we reached them, were bare of collectors, and we pretty much had the place to ourselves. That gave us plenty of opportunity to scout through areas such as the Cot Valley, a narrow cut with dumps scattered along its sides and bottom. The most spectacular part of the valley is the raised beach, seen best just where the valley enters the sea. At that point there is a vertical cliff of huge, water-worn boulders, many of which are much bigger than I am. Oddly, perhaps, there is a path right along the bottom of the cliff. It would be hard to think of a more dangerous spot to be in if one of those boulders slipped. In terms of micromounts, however, the mine dumps in the valley are sources of vuggy rock. My own investigations revealed a number of interesting items, among which were tiny black prisms of tourmaline and small clusters of cassiterite.

On another scale, the Geevor (that's "g," as in "gun") mine—a heritage site—is open for visitors, including the crushing and screening plant, and the underground, 18th-century-vintage "Wheal

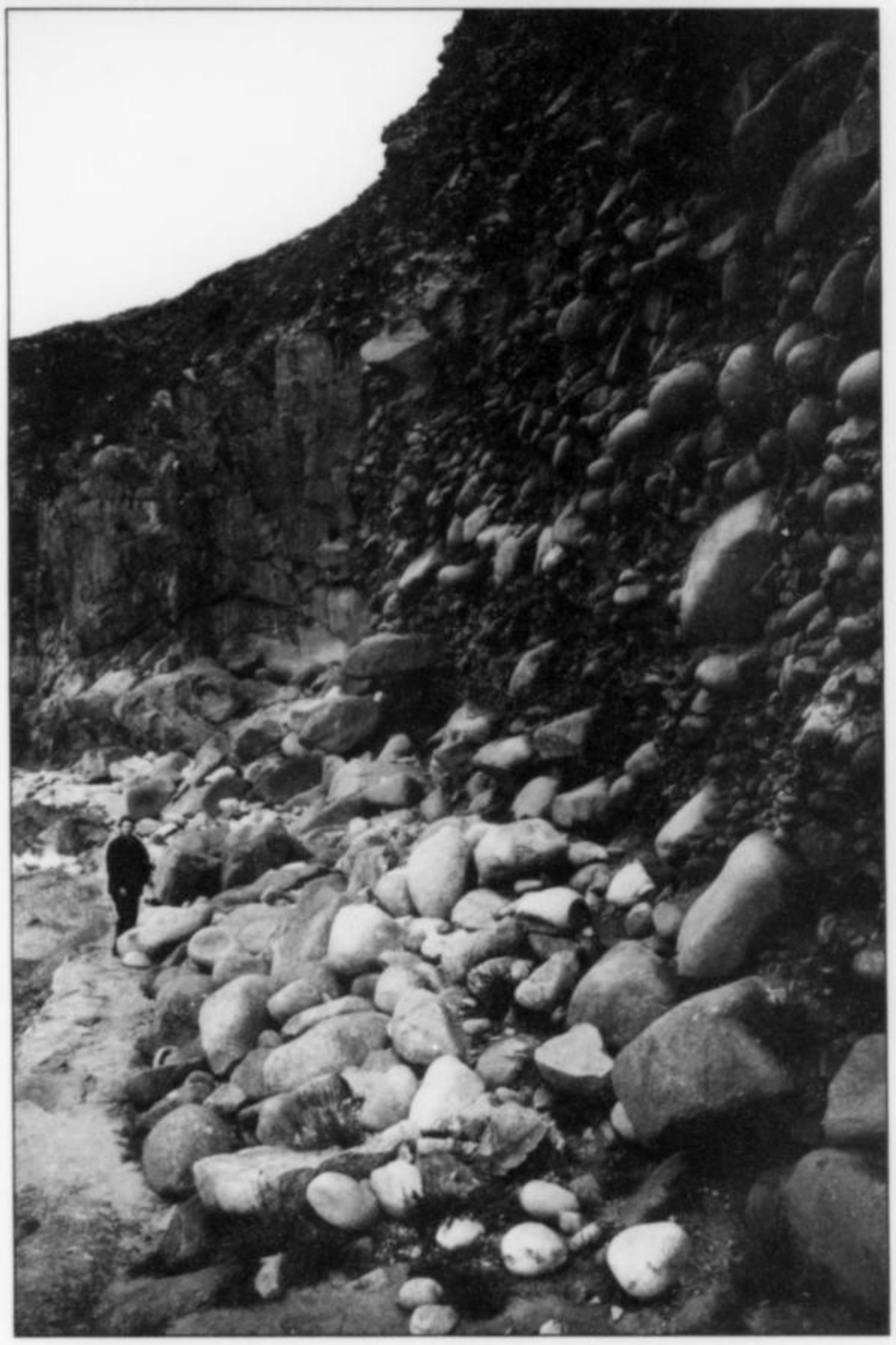


Figure 7. **The wave-sectioned raised beach at the sea entry to the Cot Valley. Many of those boulders are larger than Willow, standing at the bottom for scale.**

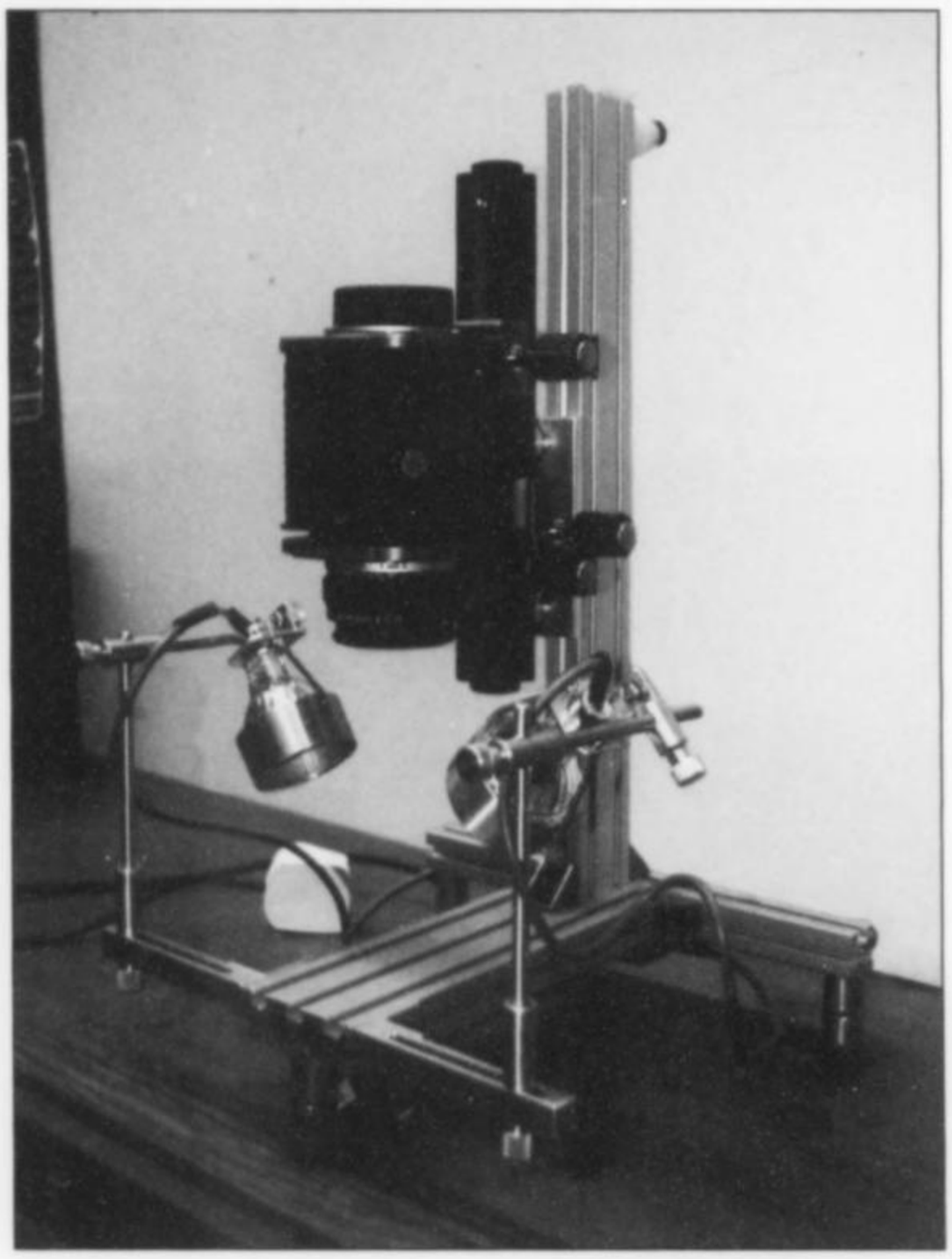
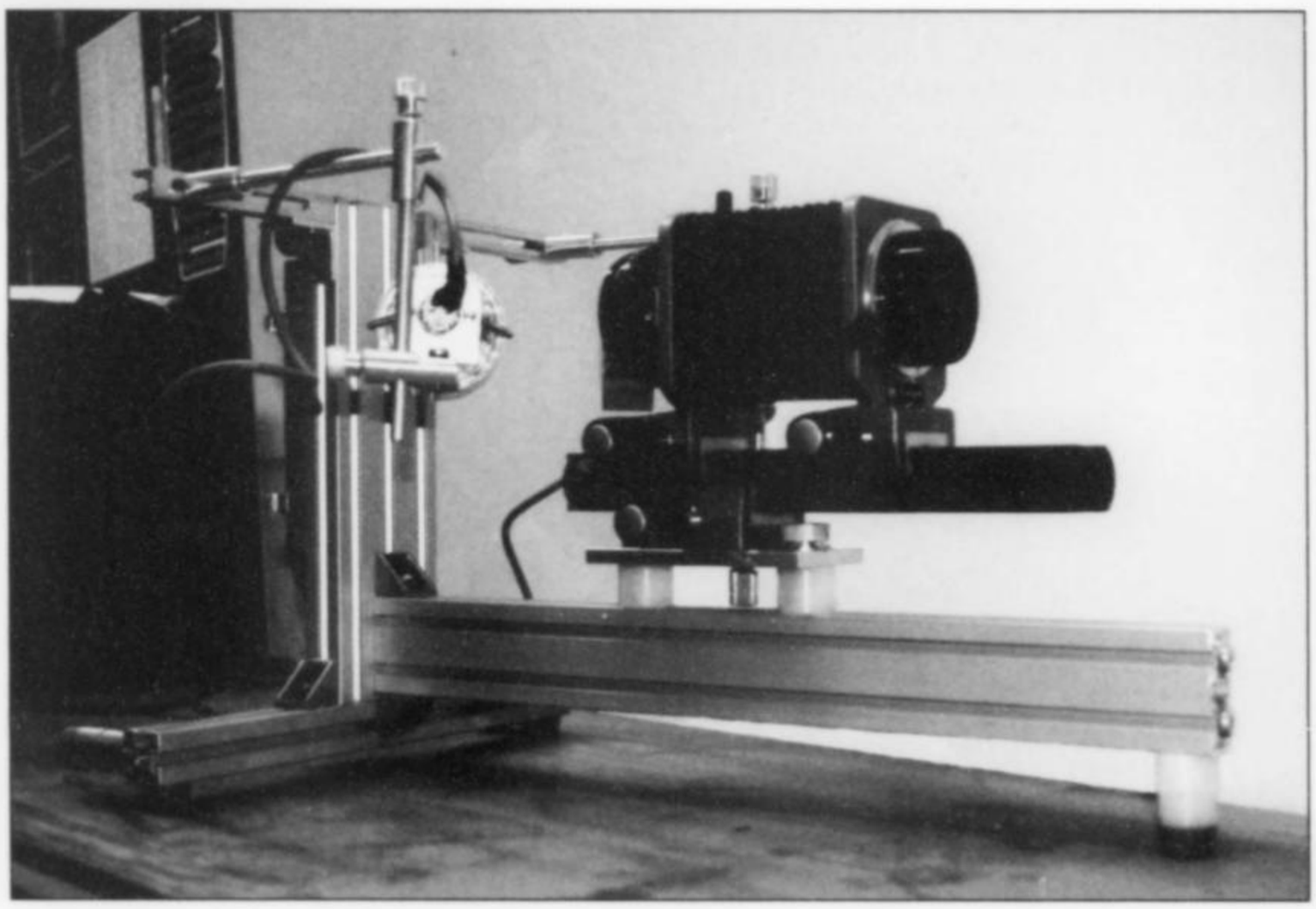


Figure 8. **The superb two-position bellows stand built by Ivor Thurgood. It is shown here in the upright position (above), and the horizontal position (right).**



Mexico" drift, discovered when some dumps were relocated. At the Levant mine, also in the heritage district, the last of the huge beam engines is operating, and micromount specimens are for sale at both localities. In Truro, the Royal Cornwall Museum has the collection of Philip Rashleigh (1729–1811; perhaps one of the first micromounters), and is in the process of opening a new gallery designed to fit the décor of that period. Of course, the world's greatest liroconite crystal (3.5 cm) is no micromount, but there is plenty of suitably sized material to be seen. Added attractions are the sheets of Sowerby illustrations, each illustration sitting beside the original specimen which was its model.

On To Italy

With respect to micromounting, Continental Europe at the beginning of the 21st century is in roughly the same state as North America was forty years ago. This is to say that there are many enthusiastic micromounters who are keen to collect, and who now have the economic means to get on with it. In North America, the population of micromounters has aged and shrunk, but in Europe the hobby is thriving. Perhaps this vitality is also a result of the fact that European schools still concentrate on a solid grounding in the sciences.

The annual micromount symposium in Cremona, Italy is currently the largest in the world, attracting more than 130 people to a meeting that lasts for less than 24 hours in total—from 5:00 pm on Saturday until late afternoon on Sunday. European micromounters are also high on the scale of generosity. At Cremona, commercial sponsors provide gifts for attendees, and there are imposing cups and medals to be presented to competition winners. This symposium is set up for exchanges only, and although the exchanges are supposed to be on a one-for-one basis, we saw instances of people simply giving specimens to others. People kept giving *me* things! The symposium welcomes attendees from many countries, and not being able to speak Italian is of little consequence. Attendees come from all walks of life, but many are highly qualified scientists with important positions in teaching or research. In short, the symposium at Cremona is an event worth attending for many reasons: good specimens, interesting people, great food, and fine wine all come together in a short space of time. Interested readers can obtain information from Micromounters Hall of Fame member Ugo Ostan, ostan.ugo@dinet.it, or from Marco Ciriotti, m.ciriotti@tin.it. Marco is president of the Associazione Micro-mineralogica Italiana (AMI), and has information on micromount events throughout Italy.

And Back To England

The year 2006 marked the 25th anniversary symposium of the British Micromount Society (BrMS). Fortunately the event took place a week following the symposium in Cremona, so we were able to attend both events. Again in England, we found the same

Figure 9. **Dr. David Green (left), curator and mineral photographer, and author Quintin Wight, discuss the merits of the bellows stand made by Ivor Thurgood. Note the other bits of gadgetry in the foreground. Photo: W. Wight.**

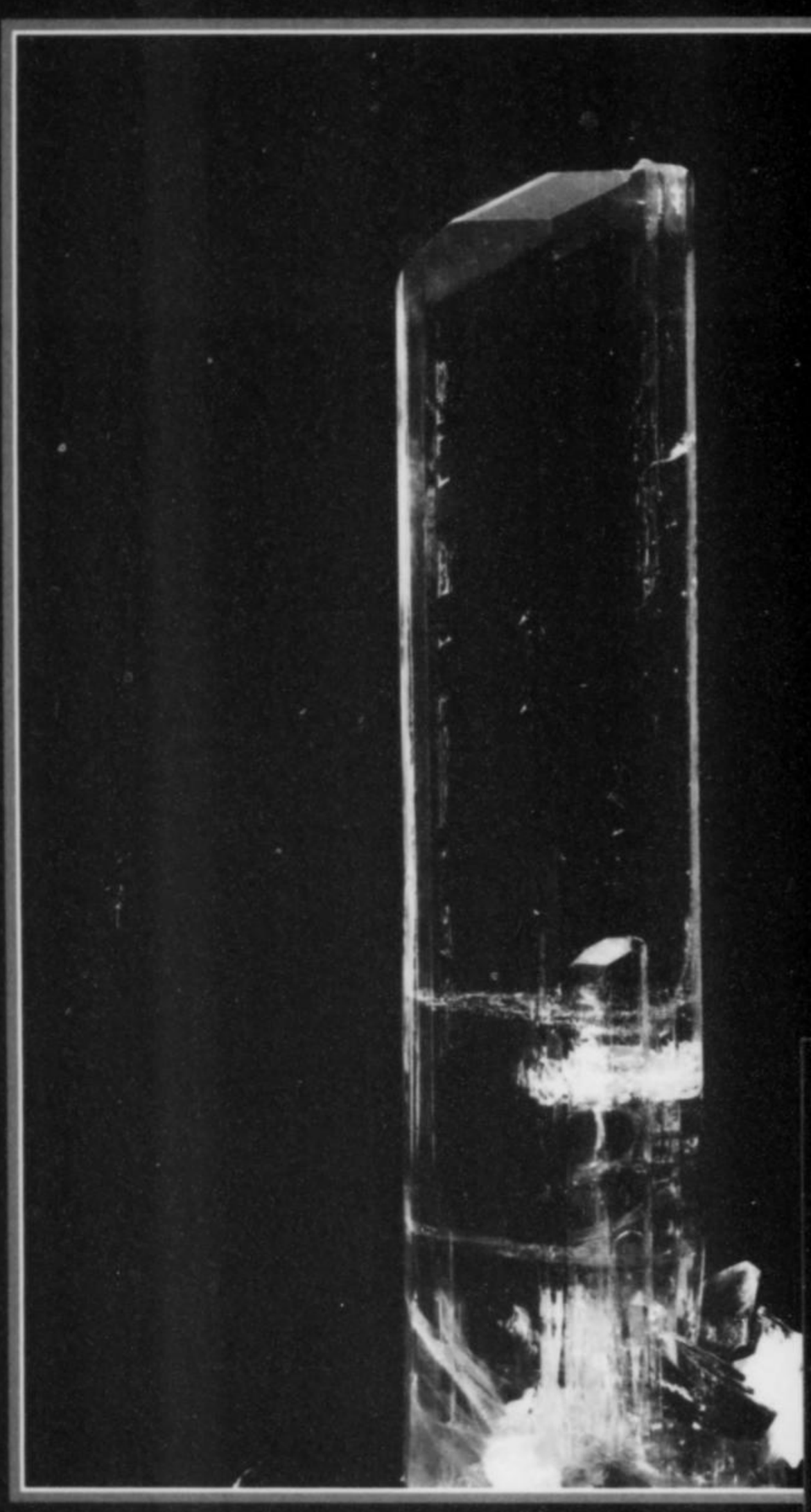
enthusiasm and dedication to the hobby that characterized the Continental Europeans. While the group was not quite as large as that at Cremona, it was close, and the mix of amateur and professional mineralogists was just as gratifying. There were at least two current museum mineral curators in attendance: Dr. John Faithfull of the Hunterian Museum in Glasgow and Dr. David Green of Manchester University Museum—see the *Mineralogical Record*, July–August 2006, pp. 319–322. Retired curator Dr. Bob Symes of the Natural History Museum in London was also in attendance.

The British, of course, are inveterate tinkerers, and with so many good engineers on hand it was no wonder that their skills were displayed in neat gadgets everywhere. One piece that caught my attention right away was a beautiful stand for bellows photography, created by Ivor Thurgood. Ivor used extruded aluminum channels of various shapes plus his own machinist talents on rod and bar material to create a lightweight, rugged stand that could be used both vertically and horizontally (see Fig. 8) and had built-in adjustable lighting. It wasn't just the utility of the stand that stood out, but also its meticulous construction. It was a very carefully finished piece—clearly the work of a craftsman who took pride in his efforts. A stand such as this would do well for digital photography utilizing the new "slice combination" methods of increasing depth of field.

There are other differences between Cremona and the BrMS besides an interest in gadgetry. Cremona adheres strictly to swapping, while the British prefer sales. Attendees simply place flats of their specimens with suggested prices (remarkably cheap) on side benches, and people wander by, pick up whatever they like, and drop the cash in the flat. They swap also, of course, but with the cash method there is no chance of regret over an uneven trade. It works well.

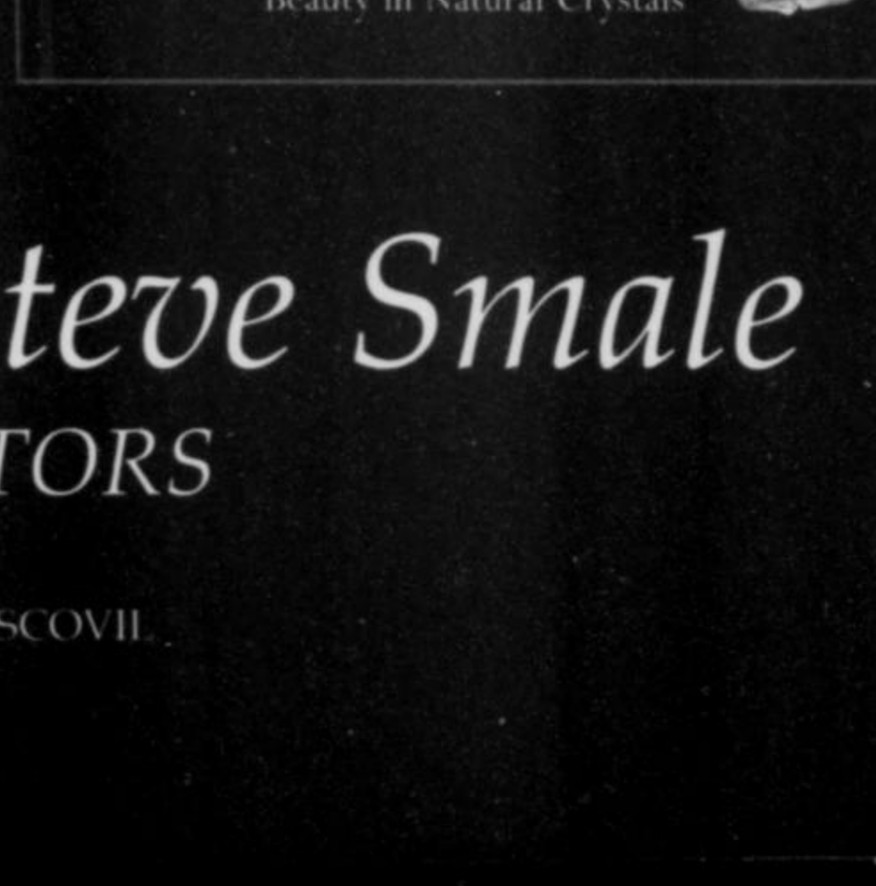
I have emphasized generosity among micromounters several times, and must do so again. At the BrMS symposium in 2001, I had been approached by a member, George Fletcher, who handed me a box containing more than 60 fine micromounts of fluorite, smithsonite, and barite from the mines of Derbyshire. I chose a few for myself, and gave out the others at micromount symposia in Canada and the USA. In 2006, George did exactly the same thing again, and I've given them out once more. Many micromounters in North America now own specimens of that material because of the generosity of one man. It bears thinking about.

The British Micromount Society concentrates on minerals of the British Isles, but the individual members are not immune to the lure of specimens from other shores. A visit is well worthwhile. Their meeting space is close to capacity, but overseas delegates are able to attend by invitation—for details, get in touch with Martin Stolworthy (martin.stolworthy@btinternet.com).



BERYL, 15.2 cm, from Fazenda Ilha Alegre, Minas Gerais, Brazil. Obtained from Collector's Edge Minerals in July 2003.

The Smale Collection: Beauty in Natural Crystals (2006), Hardcover, 204 p., Large format (11.8 x 11.8 inches) Contains 100 spectacular full-page color photos of minerals in the Smale Collection. $50 + postage from the Mineralogical Record Bookstore. Online or by email at minrec@aol.com

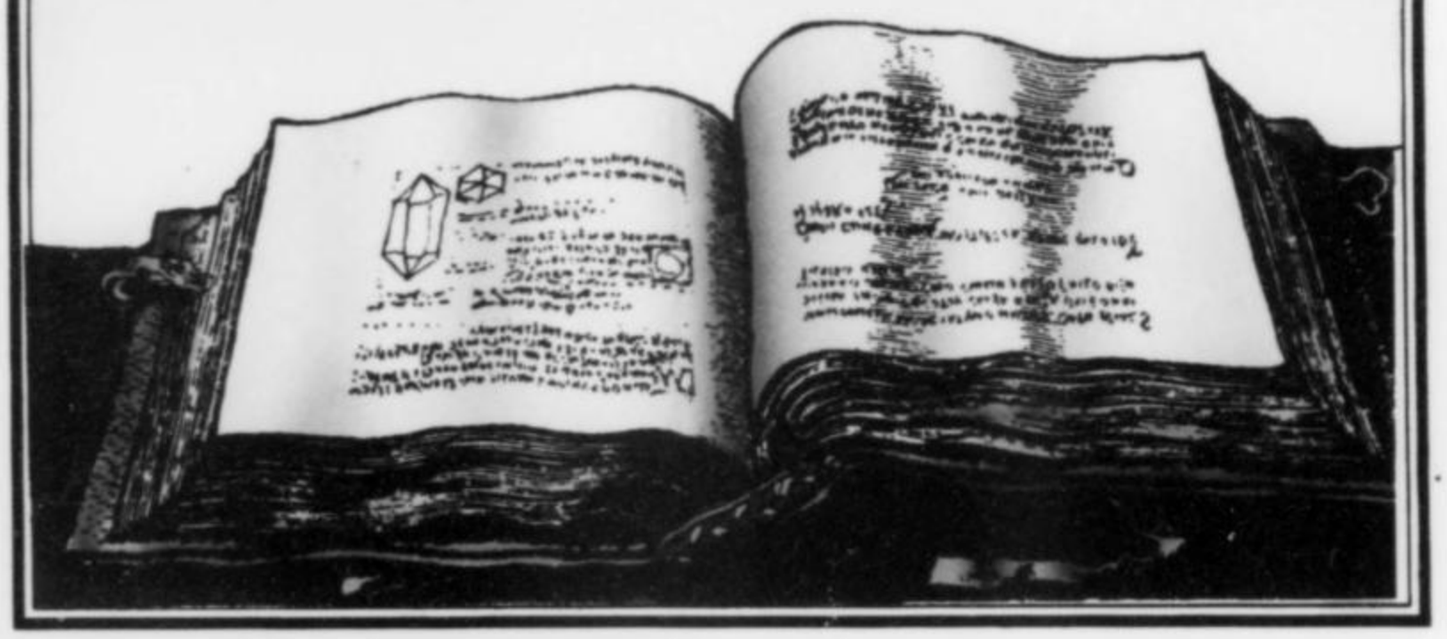


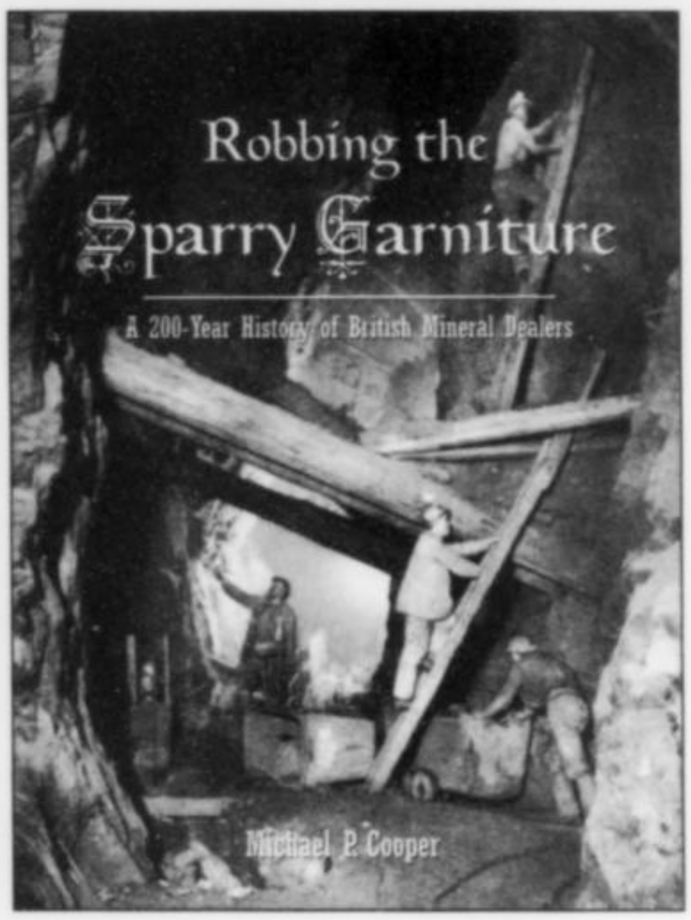
Clara and Steve Smale

COLLECTORS

PHOTO BY JEFF SCOVIL

Book Reviews





Robbing the Sparry Garniture; A 200-Year History of British Mineral Dealers

By Michael P. Cooper. Published (2007) by Mineralogical Record, Inc., P.O. Box 35565, Tucson, Arizona 85740; price $49 plus shipping. Orders also taken at www.MineralogicalRecord.com (in the Bookstore section). Softcover, 8.25 × 10.75 inches, 358 pages.

Few works in literature may claim to be new in the material they present, but just such a book is Michael P. Cooper's *Robbing the Sparry Garniture; A 200-Year History of British Mineral Dealers*. No other author has ever taken on the Herculean task of giving a general history of mineral dealing within a country, and this substantial book is an amazingly comprehensive effort. It presents a standard for its material that will be difficult for any future author to match, let alone surpass.

The relatively small geographical size of the islands that form Great Britain disguises the fact that they have produced an astonishingly large suite of beautiful mineral species, making this region one of the most prolific localities in the world. For centuries these specimens have been collected by an eager public, and this book presents a detailed history of the dealers who operated in Britain and supplied specimens from 1750 to 1950.

The preliminary pages of the text give short accounts of the author's fascination with minerals and a description of the sources he used to compile his book. The sources provide an account of the previous attempts to give histories of mineral dealers in various countries. All of the references listed are short accounts of the activities of one dealer or the dealers of one city, none of which compares to Cooper's book for scope.

A series of three sections then outlines the role of dealers in building the collections of their customers. The first essay, "Friend or Foe? The Dealer's Role," gives a general description of the qualities that make a successful mineral dealer. The ideas presented are a useful summary of the philosophy behind the dealing of minerals in any age. The second essay, "The Market," presents a fascinating history of the collecting of minerals in Britain from the 17th century to 1950. The third essay, "Distribution," describes where the dealers were located, and gives the reasons why certain British cities developed a strong community of dealers and collectors while others did not.

The main portion of the book is taken up by "A Directory of British Mineral Dealers 1750–1950," which is an alphabetical listing giving biographical notes on persons and firms that sold minerals in Britain during the period. Here are given long, fully illustrated, detailed descriptions of the famous dealers like Edgar Bottley, Jacob Forster, Henry Heuland, John Mawe, Richard Talling, James Tennant, Bryce Wright, the Sowerby family, and even the American dealer A. E. Foote who operated for a while in England. Hundreds of otherwise forgotten dealers are also listed, with birth and death dates (when known), addresses from which the dealers operated, descriptions of the dealer's label, and information on their business. The amount of detail is amazing, with the text enhanced by illustrations consisting of old labels, advertisements, documents, portraits, and examples of specimens they sold. One wonders if any modern dealer could give such a detailed account of their own business as Cooper has accomplished for dealers dead more than a century. It must have taken decades of careful research to compile this book, which is only underscored by the long bibliography of references presented at the conclusion of the text.

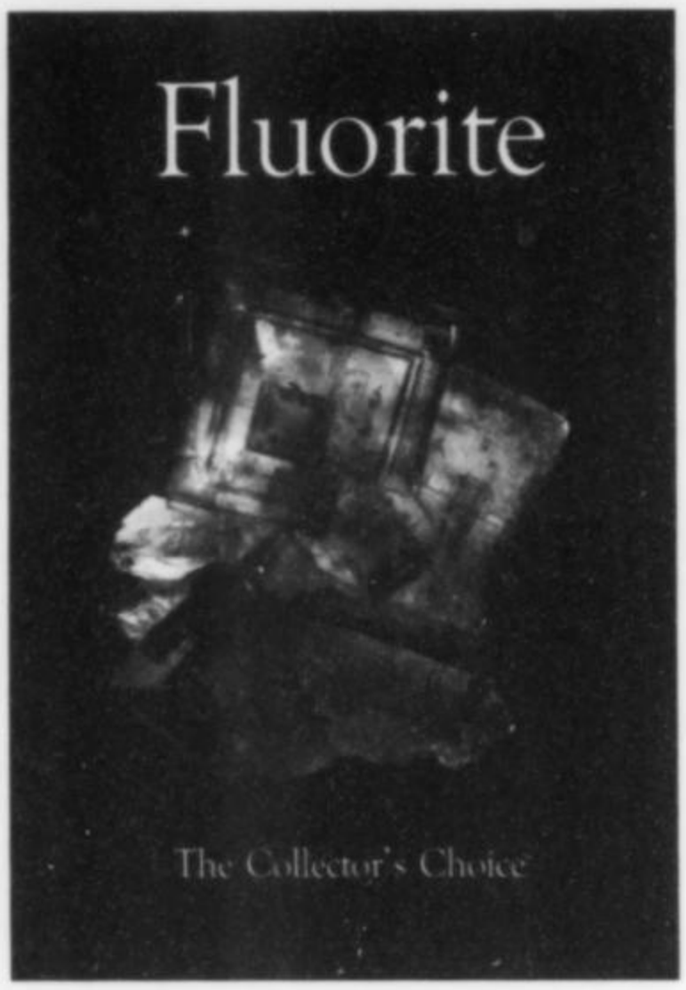
The leading title of the work, *Robbing the Sparry Garniture*, comes from a 1905 quote by F. W. Rudler:

> The walls of these cavities are, in many cases, studded with crystals of quartz and other minerals for which the haematite mines [of West Cumberland] have become famous. It is by robbing these cavities of their sparry garniture that we obtain those beautiful crystals which adorn our collections.

Being a bit obscure, it will perhaps cause many potential readers to overlook this book as they scan lists of mineralogical literature. However, this book should not be overlooked. So far this century it is the best volume of mineralogical history published, and anyone interested in British minerals, the history of British mineralogy, or the history of mineralogy generally should acquire a copy of this amazing book for their library.

Curtis P. Schuh

[*Ed. Note: A review of this same book by Si Frazier appears in the Bookstore section of the Mineralogical Record website.*]



Fluorite: The Collector's Choice

Edited by Jesse Fisher, Miranda Jarnot, Günther Neumeier, Arvid Pasto, Gloria Staebler and Tom Wilson. Published (2006) by Lithographie, LLC; available from www.MineralogicalRecord.com (the Mineralogical Record's online bookstore), or by regular mail: P.O. Box 35565, Tucson, AZ 85740; and by e-mail order: minrec@aol.com. Stiff softcover, 8.25 × 11.7 inches, 126 pages. Price $30.00.

Fluorite: The Collector's Choice has what is by now an entirely familiar look, and bears a familiar power, for whenever that Look reappears on the collector-literature market (as it does periodically), pulses are quickened throughout the mineral world. A stiff softcover, a page size three-fourths of an inch taller than that of the *Mineralogical Record*, a front cover showing a beautiful mineral specimen against a field of pure black, a team of editors including Gloria Staebler and Günther Neumeier . . . yes, this is the next entry in the *ExtraLapis English* series, Number 9, to be exact.

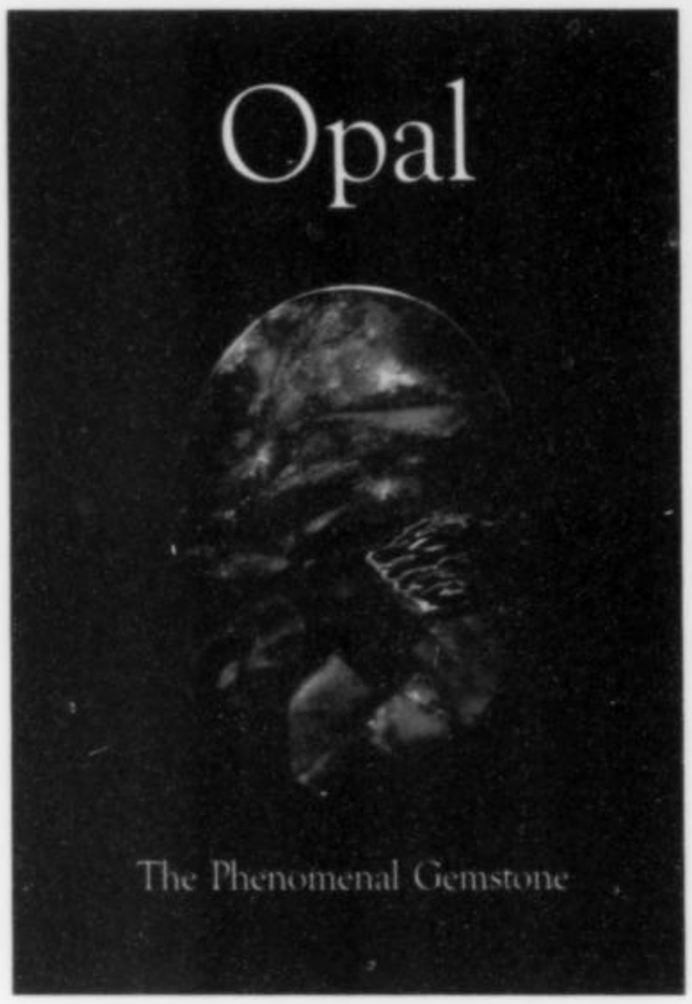
The work generally follows the established format, offering short chapters on an eclectic mix of fluorite-related topics dispersed apparently casually, even playfully, among chapters devoted to detailed fluorite-locality surveys. Contributing also to the sense of familiarity are the outstanding graphics and photos, including, naturally, photos of fine fluorite specimens, and the fact that a very large number of expert people have made contributions—33 authors, three translators, six editors and 32 illustrator/photographers are credited on the title page. The communal References list contains 94 titles in five languages.

The list of chapters on major provinces from which superlative fluorite specimens have emerged, or are emerging, is thorough: the United Kingdom (Ian Jones), Spain (Guiomar and Miguel Calvo), France (Christophe Lucas), Switzerland (Hans Anton Stalder), the Elmwood mines of Tennessee (Arvid Pasto and Brian Stefanec), the southern Illinois fluorite district (Ross Lillie), Connecticut (John Pawloski), Canada (Mark Mauthner and Frank Melanson), Mexico (Matthias Jurgeit and Peter Megaw), Peru (Rock Currier), the former Soviet Union (Ray Grant and Dmitri Belakovski), China (Guanghua Liu), Pakistan (Dudley Blauwet), Japan (Yoshiro Komuro), southern Africa (Bruce Cairncross) and Morocco (Pierre Clavel and Günther Neumeier). And let us not entertain any carping from partisans of Colorado, Arizona, New York, Germany, Austria, or indeed anywhere else which is not on the list but where Fine Fluorite Is Found: the editors couldn't have covered all of them, and for every place they *do* cover they offer top-quality photos of ravishing fluorite specimens, as well as much information on geology and paragenesis, mining histories, landscapes and cultures, etc.

The chapters on fluorite-related topics include a general historical and scientific overview (five authors), essays on fluorite luminescence (Earl Verbeek) and on cleaning fluorite (Rudolf Duthaler), faceting fluorite (Michael Gray), and fluid inclusions in fluorite (Albert Gilg). There is also—and this is part of what I meant earlier by "playful"—a piece by Erich Offermann and Pete Richards called "Fluorite Balls From Hell," in which a computer-enabled, almost insanely detailed crystallographic analysis is offered of tiny fluorite crystals from Germany which typically look like spheres because they combine the hexoctahedron (48 faces), tetrahexahedron (24 faces), cube, dodecahedron, trapezohedron and (for all I could tell, on a quick read) even more isometric forms, all in more or less equal development. The crystals come from a place in the Black Forest called Teufelsgrund—"devil's ground"—and the authors discuss the "hexed-octahedron," and, of course, are inspired to mention that in these studies "the devil is in the details."

You already have a few, maybe all, of the preceding eight *ExtraLapis English* booklets; you know that you need to add this one (and the one reviewed below) to your ever-growing collection.

Thomas P. Moore



Opal: The Phenomenal Gemstone

Edited by Janet Clifford, Paul Clifford, Ann Frazier, Si Frazier, Bruce Paul Gaber, Catherine J. Gaber, Günther Neumeier and Gloria Staebler. Published (2007) by Lithographie, LLC; available from www.Mineralogical Record.com (the Mineralogical Record's online bookstore); or by regular mail at, P.O. Box 35565, Tucson, AZ 85740; or by e-mail order: minrec@aol.com. Stiff softcover: 8.25 × 11.7 inches, 106 pages. Price $30.00.

Here is that Look again, as described in the review of *Fluorite* above: the stiff-cover, elegant, color-on-blackness appearance, this time of *Opal: The Phenomenal Gemstone*, No. 10 in the *ExtraLapis English* series, published just a few months after No. 9.

Opal places its major emphasis on rare "precious" opal as opposed to the common "potch" variety. Opal is actually a *mineraloid*, defined as an inorganic natural substance with uniform chemical composition but no internal crystal structure; "potch" is a synonym for "common," with connotations of "valueless." Discussions of opal quite often veer into definitions and sub-definitions and qualifications of terms, and much jargon rooted in opal's charisma and voluminous lore. Thus it's helpful that midway through this work we come on "An Opal Glossary of Terms," compiled by Si and Ann Frazier, to which we can turn when other chapters invoke terms like Ariki, black nobby, cacholong, conk, girasol, hyalite, Newton's rings, tabasheer, Yowah nut, and many others just as peculiar. Opal seems an especially apt theme for *ExtraLapis English*, given the series' habitual practice of mixing accounts of pertinent science, locality data,

and other "straight" subtopics with more offbeat aspects of the subject matter.

The non-locality chapters include "Sparkling Opal in Ancient Bones," about a nearly complete opalized skeleton of a Cretaceous pliosaur (dubbed "Eric") unearthed in 1976 in Coober Pedy, Australia (Alex Ritchie); an informal narrative of a black-opal mining venture at Virgin Valley, Nevada in the early 1970's (Paul Clifford); a learned chapter on how synthetic opal is made, with a digression on "photonic opal" and the possibility of "a completely optical, opal-driven computer" in which opal would be to the photon what the silicon chip is to the electron (Michael O'Donoghue); and a look at "Kirschweiler, Germany: an Historic Opal Cutting Center" and once the richest town in Rheinland-Pfalz, if not in all Germany, courtesy of imports of the magical gem from Australia (Klaus Eberhard Wild).

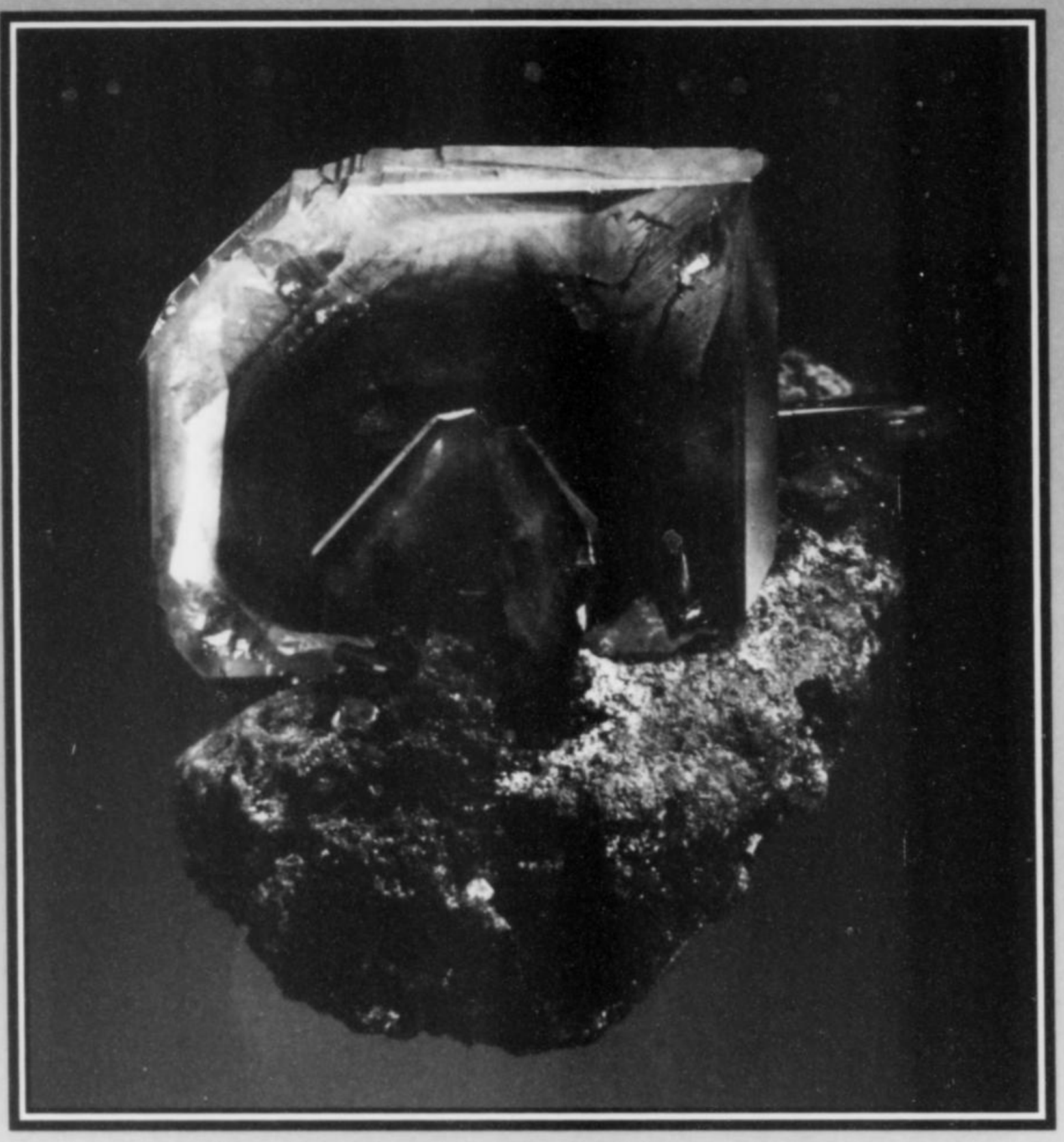
The locality-descriptive chapters are heavy, naturally, on Australia, with separate essays covering White Cliffs, Lightning Ridge, and the protean opal fields of Queensland and of South Australia. Slovakian, Mexican, Brazilian and Honduran opal rate separate chapters each, and then there is "Opal in the United States and Canada" (Catherine J. Gaber) and "Ethiopia to Indonesia: a Sampling of Lesser-known Opal Localities" (Gloria Staebler, Günther Neumeier and the rest of the editorial team).

A chapter by Max Weibel makes very clear how the advent of electron microscopy in the 1960's and 1970's enabled an understanding, at last, of opal's fine structure, and of how the beautiful play of colors in "precious" opal depends delicately on the uniform stacking of tiny silica spheres of uniform size. This discussion completes the one begun by the excellent introductory chapter on "The Opal Enigma: Science, History and Lore" (Si and Ann Frazier).

For gem cutters there are two chapters (respectively by Karl Fischer and Michael O'Donoghue) on how this most sensitive of all gem substances is polished, mounted and protected. For those who worry about the destructive crazing that happens when opal with high water content begins to dehydrate there is "Buying and Caring for Opal" (Bill Cook, Catherine J. Gaber and Janet Clifford). The whole work is bookended by a world map showing notable opal localities and, at the end, the usual multilingual Reference list, this one showing 78 titles.

What can I say that's sufficiently positive but that I haven't yet said in reviews of entries in this exceptional series of monographs? "Get one now" is hardly original, but, I suppose, will have to do.

Thomas P. Moore



Wulfenite, 4.1 cm, Tsumeb mine, Tsumeb, Namibia.

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Jeff Scovil photo.

Letters

Gallery Reviews

I am writing in regards to John White's reviews of different museums around the world. I have not had the opportunity to visit the museums he has critiqued, but I must say a picture is worth a thousand words.

I have had the opportunity to work with two different museums that I have not seen critiqued in his reviews (they are not in the same class of museum as the ones he critiques). They are the University of Utah's Museum of Natural History and Montana College of Mineral Science and Technology's Mineral Museum in Butte, Montana. I think the main problem with them, and with most museums, is that they don't have anyone working there who understands the difference between a "good" mineral specimen and an "exceptional" mineral specimen. Consequently the specimens in the collection which they can draw on for display pieces are just pretty rocks to them. Both of these museums have many of their best specimens in storage, where they are seen once every decade, maybe, by someone who works there and is curious enough to go looking through storage boxes. I know because I went snooping through boxes that had been sealed for nearly 100 years! (I didn't even know Butte had world-class rhodochrosites, tetrahedrites and chalcopyrites, and 3-inch covellite crystals!). I have seen some of the best specimens from Butte, with handwritten labels from prominent Butte mineral kings collected in the peak of mining.

I also agree with Mr. White about the purpose of a museum and that most do a horrible job. They should concentrate on displaying minerals instead of trying to be "educational," which they don't do well. My family and I run a "rock shop" in Salt Lake City, Utah and I can't stand it when kids and adults come into our store and start a conversation with "at the museum they said. . . ." I know that much of what is said on the tours and in their so-called educational programs is bogus! The museum has a staff that, I think, makes up most of what they say to "educate" the public. I can't begin to tell you how many times I have had to explain things correctly to people. This type of mis-guidance is taught as fact at museums by uneducated people or people who just don't care enough to explain it correctly. If a museum wants to educate the general public then they should hire people who know what they are talking about. Not run-of-the-mill geologists who think that because they have a degree in geology they understand mineralogy (or for that fact geology). And not volunteers who just want to do some good in the community. I have known high school students who know more about collecting and preserving minerals than professors and researchers. I guess it is a matter of priorities and economics.

I also wonder if Mr. White has ever thought of critiquing smaller, private collections that are on display to the public? I have seen some good collections on display (not for sale) at different rock shops, schools and libraries over the years that specialize in what is found in their area. In our store, for example, we have a "Museum" cabinet of Utah minerals and fossils (about 500 specimens total). It isn't much, but I like to show people what is available in Utah. I have often thought "what would Mr. White say about my collection."

Rick Dalrymple
Salt Lake City, Utah

Mick Cooper's Book

I have just received a copy of Mick Cooper's book *Robbing the Sparry Garniture*—a fascinating in-depth study and account of British Mineral dealerships of yore. I was acquainted with one of those dealers, Edgar Percy Bottley, charicatured on page 148. He headed a "quaint" establishment (Gregory, Bottley & Co.) on Old Church Street, Chelsea. E. P. Bottley it was who sold me my first example of a platinum mineral, sternly warning me at the time that it was "expensive" for what it was—a gleaming perfect quarter-inch sperrylite cube from Rustenberg priced at "five bob," the equivalent of 50 cents U.S.! Everything in his establishment was priced on an "ad hoc" basis, and treasures could be culled from their cabinet drawers. Although the drawers were full of eons of accumulated dust, a good "blow" might well reveal a classic fair-sized hand specimen of Sacaramb sylvanite (the "graphic tellurium" variety looking rather like Hindi script). The "spot" price would be about the same as for the sperrylite! Rhodesian alexandrite sixling chrysoberyl twins an inch across would come a little more expensive—maybe as much as $2.00! Those were the days!

James Knight
Manchester, England

Congo Mines Re-opening

This is just a brief note to let you know that the new Chief Geologist for the Nikanor mining company (me!) is a keen mineral collector, and we are working on restarting mining here at Kolwezi in the Democratic Republic of the Congo. Any readers who might be interested in making contact in order to acquire material are invited to make preliminary inquiries. However, I am snowed under with work at the moment so don't expect quick replies. Also, persons wanting to collect should best wait until mining restarts in earnest, and will probably have to come over to see what is happening as I shall not be able to organize the shipping of specimens.

We are already mining at Kananga which is 5 km north of Kolwezi. Kolwezite is locally quite abundant. The drilling shows that cobaltiferous carbonates, native copper and carrolite are common at depth, but it will be a while before we get there.

We are also mining at Tilwezembe which is 35 km east of Kolwezi. There is nice malachite, dull earthy heterogenite and crystalline copper phosphates which I still need to identify.

Underground mining will be starting later this year at Kamoto and we can expect

crystalline carrolite from there. We will only commence mining ore at the huge KOV open pit later in 2008.

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Internet Sales

Thank you for the excellent forum article in the May–June issue expressing four views related to internet mineral sales. All four of the panel members presented very valid points and a careful reading of the article points out both the benefits and pitfalls of this emerging area of our hobby. There are three comments that I would like to make regarding the article.

First: It is not correct to say that Jordi, Rob and John were the first mineral dealers to offer websites devoted primarily to the direct sale of minerals. I have no idea who was first, but I can tell you that Jendon Minerals opened a website devoted primarily to the direct sale of minerals in 1989 . . . a bit more that ten years ago. It simply was not promoted in publications in the manner of the more aggressive dealers.

Second: Since 9/11, the demographics of my business have changed greatly. Not only are regional show fees for dealers getting higher and higher (the average fee for my booth at shows is $800), but the cost to "our Guests" is steadily climbing. The last show I attended had an admission fee of $7 for adults and $5 for a child . . . parking was an additional $5. This, of course, means that a family of four will have to shell out $24 before they even have a chance to purchase a specimen. Which leads to another change. There is no longer any such thing as a local club or regional *mineral* show. In today's world a "good" mineral show that offers 50 to 60 vendors, may have—*may have*—ten full-time professional mineral dealers, and very few true collectors are going to travel more than 50 miles for that!

Third: My business is somewhat unique because for the last 20 years my specialty has been top-end thumbnails, so while I cannot speak for all dealers I can tell you what I see going on. Local and regional shows are becoming flea markets. In most local and regional shows these days anyone willing to pay the booth fee can sell anything from mounted butterflies to rock candy.

Since 9/11 the sales percentages of my business have grown from 80% at mineral shows and 20% over the internet, to 30% at mineral shows and 70% over the internet—with a **20% increase in total business.** Consequently I will be retiring from shows and from traveling as of December 30, 2006 and will be devoting full-time to my web business, www.jendonminerals.com.

Beau Gordon
Jendon Minerals
Rome, Georgia

Response from John S. White:

I cannot fully agree with you on your characterization of local and regional shows. It certainly is not valid for those that I attend in this area. In fact, I just did the only one I ever do as a dealer yesterday at Goucher College (near Towson, Maryland) and it was a fine show. At least 95% of the dealers handled only minerals and there was a good balance between those with mostly local material and those with international material. There was only one dealer selling gem necklaces. There were several lapidary dealers. Attendance was very good for a show that gets little advertising, but sales were not particularly good.

I read the recent article on minerals and the Internet with great interest as I have been marketing minerals exclusively on the web since July 1996. Although the discussion is very thorough, there are several additional points that were missed and are germane to the discussion.

(1) Mineral shows and web dealers need each other. And web dealers probably need the shows more than the shows need the web dealers. Dealers can certainly obtain many of their minerals by buying collections, financing digs, traveling to the sources in foreign countries, and purchasing from wholesale contacts, but *mineral shows* are a vital source of specimens for many Internet dealers. It would be very difficult for me to keep the virtual shelves stocked with new material if I couldn't buy at major mineral shows such as those at Tucson, Munich and Denver. Attending major shows offers me the chance to see and obtain examples of what is new in the mineral world, and then report on it in real time on my website. I am also able to build my inventory for posting as updates between major shows. Shows are not my *only* source of new material, but they are my main source. And I am not alone, as I regularly see many other web-based dealers at shows buying specimens to build their inventory. Web mineral dealers essentially bring the money of collectors from the far reaches of the globe to these shows—money that would never be there otherwise. The Internet offers worldwide collectors second-hand access to the shows, and that substantial demand gets quietly translated into many thousands of dollars in sales for the show dealers.

(2) As to prices, the Internet is drastically increasing the "wholesale" prices that dealers have to pay for material *at the source.* It has completely leveled the playing field for the whole range of people behind every mineral seen at a show or on a web page. Many dealers in the past were able to visit remote areas and pick up dazzling specimens at or near the source for essentially a song. They would bring these back to sell at shows and frequently realize profits that were staggering in relation to their expenses. The suppliers at the source had no idea what their material was being sold for at the retail level. The Internet has enabled the suppliers to see what the actual retail value is, and that has had a dramatic impact on prices at the sources in remote places like Brazil, Pakistan and China. It will take some time for the suppliers to realize that everyone in the commercial chain needs to "get their lunch" out of handling a specimen. In the short term this has been the source for much of the dramatic rise in the price of specimens, but I would fully expect to see prices come down over time as the market becomes more normalized.

(3) The Internet has allowed for a proliferation of new mineral dealers. Anyone can take a picture of a rock and post it, along with a price, on a website or on Ebay. Potential buyers should remember that any respectable dealer will have a generous return policy in place to protect his customers. The seller should also be able to answer your technical questions about what is being offered, or be able to direct you on where you can get the answers to your questions. A word of caution to any collector: get to know the person you are dealing with and avoid the hype of any dealer suggesting that minerals are a good investment. You will very rarely get the price for your collection that you paid for it. The best way to educate yourself is to attend large mineral shows, talk with dealers and other collectors, read the *Mineralogical Record* thoroughly and visit museums or university collections. Use that knowledge to build a focus for your collection and then find a core group of dealers to help you with your collection objectives.

(4) Lastly, for the historical record I would like to state that the initial pioneers in bringing minerals to the Internet were **Amethyst Galleries** (mineral.galleries.com) and **Bob's Rock Shop** (rockhounds.com). Steve Covey of Amethyst Galleries developed the first database system for information about minerals and also developed the first commercial site for purchasing specimens over the web. Bob Keller posted a vast amount of information about things mineralogical, including news about mineral shows such as Tucson, articles on mineral collecting, localities, and many other aspects

of the hobby. His was also the first portal of any sort directing mineral collectors to other fledging commercial sites (such as mine in 1996). These two, more than anyone else, inspired everyone who came after them, including me, and should receive high praise and recognition for their early contributions.

John Veevaert
Weaverville, California

This is in response to the article on *Internet Mineral Sales*. I am a fairly active mineral collector who attends four to five shows per year (which sometimes includes Tucson). I check the mineral websites almost daily and have ordered 25 or so specimens via the Internet in the last seven years, of which I have returned about half. For me, the purchasing of specimens over the Internet does not work for the following reasons:

(1) Minerals are three-dimensional works of art that just cannot be captured accurately in a photograph. They must be held in one's hand and admired/studied in normal room or daylight in order to appreciate their true color, degree of damage, and overall visual impact.

(2) Even with a ruler in hand it is difficult to visualize the actual size of a specimen. The Internet seems to be full of small miniature sized pieces, much more so than you would find at any show. For the pieces that I have ordered I find that they are usually smaller than anticipated.

(3) The prices asked on the Internet are almost always much higher than what is asked for at a local show. I could fill an entire issue of the *Record* with examples but I will give you just one recent one—the new thompsonites from India. There were thousands of specimens available in Tucson where a nice small cabinet specimen could be had for between $100 and $200. A well-known Internet dealer posted similar specimens priced between $400–$600. I found specimens of similar quality at two local shows priced between $150 and $300. I can think of very few specimens that I have seen for sale on the Internet that could not be purchased for a lot less at a show or even directly from the Internet dealer himself!

(4) It is very difficult to negotiate prices on specimens offered on the Internet. Typically, when you go to a show or to a dealer's home/store, you will have an opportunity to negotiate prices. I have tried doing this over the net but with only limited success.

Please do not misunderstand me. I am not saying that these websites are bad. To the contrary, I think that they are great. They provide people who are not able to visit a show or a dealer with an opportunity to purchase specimens that they would not otherwise have. Also, I find a lot of value in looking at these websites for information. You can quickly find out about new finds, you can get a sense of how much of a particular find is out there in the market, and you can even do a little label locality research.

My problem with the Internet is not the people trying to sell minerals but the people who are buying them. The Internet is just another selling tool and I fault no one for taking advantage of it. Instead, I blame much of the recent increase in mineral prices on all of those lazy uneducated collectors out there who seem to have more money than common sense. I think that they bear much of the blame for the ridiculous rise in mineral prices, which has been exacerbated by the Internet. When you see a Cave-in-Rock fluorite, Ojuela mine adamite, or Tsumeb dioptase sell for three times the price that you would pay at any local show, you just have to wonder what people are thinking.

I do not let this discourage me, though, as it has some of my friends. Fairly priced specimens are still out there. You just have to be a little more patient and work a little harder to find them—which is, of course, part of the fun.

David Dinsmore
Forest Hill, Maryland

Regarding the sale of minerals over the Internet, I agree with comments and observations offered by John White, Jordi Fabre, Wendell Wilson and Tom Moore in the May-June issue. I feel, however, that there is more to be said and additional views to be considered in this discussion. I would like to offer four additional comments from my dual perspective as private collector and show promoter. Please remember that we are all looking at this buying opportunity from different viewpoints and each of the writers is totally correct in what he has offered.

(1) As a show promoter, I have set a policy of personally not using Internet dealer sites as a source for the minerals I buy. I prefer to purchase specimens from my dealers at the shows that I produce, as a way of supporting the dealers that support my shows. I travel extensively to advertise our shows and therefore am able to enjoy more in-person buying opportunities than almost any other collector.

(2) As a collector, I feel that the real thrill of collecting mineral specimens is in "the hunt." I compare buying minerals via the Internet to eating pasta without the meat sauce! As much as I love my computer, I have not learned to fondle and examine and enjoy the many photos of specimens for sale on the many websites, while in the company of my desktop. I would also add that on the rare occasion that I have found an interesting specimen, it is usually marked "SOLD."

(3) As Wendell Wilson said, "there is no substitute for the social aspect" of shows. The mineral collecting hobby is a social event. Collectors travel to shows to see friends and new finds and observe what's new and see what is happening. At the show we can look at, fondle and compare specimens and listen to the dealer's sales pitch (which adds value to just owning a specimen). It's just part of the hobby! Collectors can spend days at a larger show visiting the dealers and chatting about upcoming events or other current gossip in the hobby. Buying on the internet does not offer this social contact. I admit, however, that NOT attending shows may be a true advantage to collectors who wish to remain anonymous.

(4) I feel that Internet sales of mineral specimens has led to lower attendance and therefore fewer sales of specimens at shows. With the high price of gas these days, Internet buying gives collectors the ability to save money on hotel bills and travel expenses by not attending shows. This may explain some of the difficulties being experienced by many gem, mineral and fossil shows.

Marty Zinn
Collector and show producer
Evergreen, Colorado

As a subscriber to the *Mineralogical Record* for about 30 years I want to compliment all of those who have had a hand in producing such a high-quality publication. The "Internet Mineral Sales" forum especially interested me, as I have sold just about everything *except* minerals on the Internet. The article was very good and thought provoking, and I commend the authors for it. I must say I have the most empathy for the writings of Jordi Fabre. I would like to make two points that I do not feel were given due emphasis by anyone.

(1) Persons who have many thousands of dollars to spend on a specimen will certainly not buy on the Internet. If I were going to pay $100,000 or more I would feel the price of a plane ticket to be of no account. Therefore, the above named article was not about them.

(2) There must be many people who live a long a distance from the nearest Mineral Show, or who are perhaps new to mineral collecting and are not yet in touch with the show circuit (this was me in the 1970's), and who then discover the sales taking place on the Internet. I know of several such persons. These are not handicapped persons, they just live far from the roar of a city big enough to have a show.

I attended the Tucson Show for quite a few years and may again, but I have not bought minerals from the Internet as yet, and it is probably because of the "hold and feel" reason.

Bill Chellberg
Wheaton, Illinois

I read with interest the recent article on Internet sales, wondering what the intent was from at least one author. Since 1973 I have sold minerals out of my house and traveled to find good minerals. It was hard to ever show a profit, and I suspect that most shops that John White regards as a preferable source of specimens also rely on other items, such as gems, jewelry, books, equipment, and miscellanea to keep their retail shops afloat. Shows probably are the most important way for most people to buy specimens, but few shows have all the variety of dealers that the Tucson or Denver shows have.

Since starting my company, I did various shows, especially Tucson, but quit basically for three reasons: it was costly and hard to travel to shows, exhibit, haggle on prices, unpack, and pack up with one or two people, and it also made business impossible to run back at the main office. The hours are long and conditions are not like those for the customer, who is just shopping. More than one dealer has been hurt (financially and emotionally) by damage to specimens incurred during transit. That said, my decision to sell principally via the Internet on my own website has been quite a good experience and I have had less than ten returns in 5 years.

I do think that a dealer who has done quite a few shows in the past and perhaps has published in the trade journals has a following, and has an advantage when starting a website. Also, the dealer must be able to produce accurate photographic images of his specimens, as a picture is worth a thousand words. Photos should not embellish or give wrong impressions, and damage not seen in photos should be mentioned in the descriptions.

Most Internet dealers send out specimens on approval, so the idea of not being able to see a specimen in person is a moot. Also, I have seen very good specimens on other websites but have seen few bad pieces. It is a waste of time to put damaged, fragile, or ugly specimens on a website, and it is also pointless to put bad pictures up. In my first year of the website, I used a digital camera with very low resolution, and got maybe ten sales. I replaced it with a Canon with a macro lens and from then on the website was profitable.

I have sold some very rare and fine, museum-quality specimens through my website. I have prices from $25 to $10,000 (on occasion). So I think people are unjustified in saying that mineral websites are not the place to find great specimens. I can now sell a good mineral for the lowest possible price, and the nominal charge for postage is usually no problem for collectors. They can then see the piece in person, on approval, and answer for themselves that nagging question, *is it good enough for my collection*?

Jack Lowell
Tempe, Arizona

Thank you for publishing the timely and pertinent forum on the advantages and disadvantages of Internet mineral sales. I'd like to add a few comments to what has been said:

(1) The ability to shop, peruse, think, and decide from home, while secondary to the fun of going to a show, I admit, is invaluable to many people who simply cannot abandon their normal lives and go to shows all the time. From the dealer point of view, Internet sales involves a lot less overhead, lowering needed margins, and is a lot safer in terms of the risk and liability of traveling with our life savings in the back of a truck. It is also more conducive to family life, or I wouldn't be a dealer today. Internet dealers have a 24/7 selling window without the liability and risk of shows.

(2) The Internet provides a convenient way for people who have been out of touch with collecting for decades, often while raising a family and building a career, to get back into the hobby they had known in their youth. One of my biggest demographic categories for customers is the collectors in their 40's and 50's who are returning to a childhood hobby. But mineral collecting, of course, is *not* the hobby it was back then. In terms of prices, availability, and selection of worldwide specimens, not to mention the sheer size and breadth of the big mineral shows, the collector environment has changed drastically. I've learned from talking to such collectors, that their one big fear about returning to the hobby is their lack of understanding of the price inflation of the 1990's, and how to decide where they should be collecting, given the current prices. The answer is that the sum total of the websites on the Internet acts as the closest thing we have to the "blue books" so common to other antiquities hobbies, and provided for the first time an easy way for returning collectors to feel their way back into the hobby. (For new collectors, the benefits of a de facto online pricing guide are even more obvious.)

(3) The great *variety* of specimens offered online these days provides, in a way never before possible for most collectors, a new method for building esoteric locality and focus suites. Minerals from Långban, Franklin, Tsumeb, as well as various rare species and groups, are all easily sought using search engines. A wealth of rare specimens can be found online at the click of a button. This facilitates the building of specialized suites that formerly might have been too difficult to assemble at local shows around the world. I have seen many collectors accomplish so much via the Internet, that was simply impossible by combing shows and asking for certain localities and species. For those who know how to use a search engine and can do little comparative browsing, the integrated searching power of the Internet is simply unique in mineral acquisition history.

(4) Based on statistics from my own website, it is immediately obvious that the core of the online market (which some people also say is the core of the show market) is the continental United States. Within Europe, I see more collectors visiting my website from Spain, followed by Germany, France, and the UK. In Asia, it is no surprise to see a rich traffic coming from Japan, which I interpret to be private collectors. But the broad traffic I've observed from the active mineral source nations of Russia, China and India, I am quite certain, represents dealers and miners more than collectors, peeking in to see what their specimens are worth on the worldwide market! The Internet, therefore, clearly allows participation in the hobby by geographically isolated collectors, miners and dealers from the Arctic Circle to Barbados, and from Madagascar to Thailand.

(5) Even on the Internet, the Tucson Show has an enormous effect, and gets all the attention it so richly deserves. I have observed a clear spike in Internet activity in March, and I would bet that other dealers see it too, as we get home with our newly acquired goodies and begin to post them on our websites. Viewer attention worldwide peaks a notch, as collectors tune in to see what was new at the show. Not only are more people *looking*, but more of those people are staying to read about and view specimens. To me, it is obvious that the web provides an invaluable window into the shows, and in fact is critical to their survival because of the added promotional value it provides. I can firmly say from examples that the interest and traffic generated online does, in real life, translate into new people coming to the shows for the first time as collectors, bringing new blood to the show.

The Internet pumps a lot of money into

these shows, which helps all involved in them, as Internet dealers comb for new specimens to bring home and post online. The internet does *not* hurt the shows, but rather clearly emphasizes, advertises, promotes, and contributes actively to their health and well being.

(6) Thanks to the Internet, there is a burgeoning worldwide market for specimens on the lower end of the price scale. The Internet offers a worldwide reach to collectors who have never been offered a "$100 Arizona azurite," for example, by the dealers who have brought minerals to their area in the past. The economics of selling the cheaper specimens has changed.

(7) A primary result of the Internet is that new money flows into the hobby from more customers, spurring an increase in the dispersal speed and the quantity of collections and new finds, and increasing the flow of cash to purchase collections and to invest in new exploration work at all price levels. This feedback loop results in a huge increase in the number of specimens coming onto the market.

Rob Lavinsky
www.irocks.com

My observations and experiences regarding Internet mineral sales is that there is a common and ofttimes purposeful failure of dealers to accurately depict and describe a specimen's condition and damage. This applies both to direct Internet mineral sales and Internet auction sales, though the hazard with auctions is greater because, in most cases, specimens purchased in this manner cannot be returned. Although a buyer can return a non-auction specimen, it is imperative that all internet dealers divulge damage, portray colors accurately, and post images that show how a specimen looks from different angles, because perspective in photographs can produce a very misleading impression.

The purpose of specimen photos should be to show, besides general appearance, damage and alteration, not simply to demonstrate a specimen in the best light from just the right angle to emphasize its best features. Even then, a photo specifically designed to show damage can have problems: if one is too far away the damage may be lost, but if one is too close the damage cannot be seen in proper perspective.

Sometimes it is not the depiction of physical damage *per se* that is misleading. A bright light or strong sunlight can make crystals with a rather dull luster appear more lustrous than they would in a normal cabinet setting under normal lighting conditions. Also, a photo taken of a specimen sitting in a certain position, and maybe only in that position, will produce a nice luster or misleading appearance, though such position may not be the optimal one for display. However, photos alone are not enough. Written descriptions must also be included, and must be candid, accurate and detailed. For example, when someone declares "no damage" then I must assume that means that there is *no naked-eye visible damage to the crystals*, excepting around the edge of the specimen where broken away and where such damage does not affect what are the prominent crystals. While one can debate degrees, every dealer knows when there is damage that detracts from a specimen's appeal and its price, and whether such damage is trivial enough to be categorized as "no damage." Invariably, some dealers are going to say in response to this letter that they would gladly supply additional photos upon request. That argument is not sufficient because one should only have to ask for more photos *as a last resort*. Damage should be shown clearly, and written about even more clearly, and *up front*!

They will also claim that differences in computer monitors and graphics cards can account for color variation between what a buyer sees on his screen and what is actual. While this assertion is plausible, it is also difficult to prove otherwise, thus leaving buyers in a quandary. Still, the point must be noted that if dealers are knowingly hiding, disguising or failing to fully reveal damage, it is not a far stretch to conclude that they would also have little compunction and hesitation in manipulating image color in photos.

The other truly major concern a bidder must weigh before participating in a mineral auction is what is termed "shill bidding," the practice whereby a cohort of the seller poses as a bidder for the purpose of driving up the bid price. Unfortunately, "shill bidding" is virtually impossible to detect, thereby making it very tempting to utilize.

As a partial deterrent to purposeful misrepresentation by dealers of a specimen's condition and color, I believe the buyer and seller should share the shipping and insurance costs. Currently, the buyer usually pays these costs both ways on a returned item.

In conclusion, this problem—the deliberate distortion of photos or omission of information that Internet dealers know if presented to potential buyers would inhibit the sale of specimens and/or reduce the price buyers are willing to pay—is not one of simple accidental mistakes, oversights or things occurring by happenstance; it is too utterly pervasive for that to be the case. If Internet dealers are forthright initially on their websites about damage, color, luster, alteration, etc., this will help ensure no unpleasant surprises when a buyer receives a specimen in the mail. Such practice will save everyone time, trouble, expense and aggravation. Shill bidding, on the other hand, should such action be exposed, would probably prove fatal to mineral auctions and destroy a dealer's reputation, and quite rightly so.

C. S. Cossé
Spring, TX

Ikons Supplement

I would like to sincerely thank you and especially Wayne Thompson for the recent *Ikons* supplement to the May–June *Mineralogical Record*. It was a thrill to read such a wonderful publication and very relevant to my own mineral collecting aspirations. This publication will take its place next to the other great contemporary works such as *Gem and Crystal Treasures*, *The Smale Collection* and *Masterpieces of the Mineral World*. It serves as a true inspiration to all those who are passionate in the mineral collecting field. I have already read it cover-to-cover twice and it has been a joy each time. Please sign me up for the hardcopy version.

Adam Shields
Ashland, MA

I would like to congratulate you and Wayne Thompson on the new book *Ikons*. I was more than pleased (*ecstatic* would be the right word) to see it inserted as a bonus to the most recent issue of the *Mineralogical Record* (which I also enjoyed immensely! Great research and info on China). The *Ikons* book is a fabulous addition to every mineral collector's library. In fact, I like it so much I would like to order 10 extra copies.

Stuart Wilensky
Wurtsboro, MA

Thank you for publishing the most current supplement to the *Mineralogical Record*: Wayne Thompson's *Ikons*. I can't say enough about it. The plates are up to your usual high quality and I especially appreciated the up-front material on building a world-class collection, etc. Please publish more *Ikon* supplements, even if you have to increase the subscription price. And, if possible, please set up the gallery so we can download the photographs for our computers. Such imagery!

Daniel Parker
Ocean Park, WA

We're working on both of those suggestions. Ed.

You have really produced a masterpiece with the *Ikons* issue. Sincerest compliments to you, Wayne, and the others who were involved.

Allan Young
Boise, ID

As a regular reader of each issue of the *Mineralogical Record,* I cannot express my appreciation for each number (which almost every time deserves it!). But, this time, you really set up a new limit with Wayne Thompson's special supplement (*Ikons*). A masterly choice, and highly interesting, not only for the specimens themselves, but also for the accompanying text. I myself come from the university world, but, since my wife has been appointed as curator to the "Musée de l'Ecole des Mines," I have become increasingly interested in museum-quality mineral specimens, notably through my good friend and passionate collector, Eric Asselborn.

We also appreciate Wayne mentioning our museum in his text (p. 12), and I would be very pleased to show our "ikons" to serious visitors. We were also quite happy to discover that a number of our best pieces (brazilianite, Murzinska topaz, Bisbee azurite, Touissit azurite, etc.) would be serious competitors for the ikons pictured in Wayne's book, with of course the major difference that they are not (and hopefully will never be!) for sale. Your issue has given us the idea of identifying our "ikons" by a special sign. If you are passing through Paris, come and visit us and see if you would agree with our choice.

Incidentally, just a detail—I would prefer that, even in English, our institution be referred to as the "École des Mines" rather than the "School of Mines." Since the time of Napoleon, the École des Mines in Paris has been much more than a school of mines, and I do not think that even a single student has actually studied mining there for at least two generations. The École is a major part of the French establishment, notably as the birthplace of the "Corps des Mines," which rules all technical aspects in our country. It is for this reason, among others, that automobile license plates in France are called "mineralogical plates," something which must sound very strange to any foreigner. It doesn't mean that they are made of quartz, but rather that they are controlled by the "Corps des Mines." The pressure of the American language in our country is such that the present directors of the institution are thinking of changing the name to the rather unfortunate "Paris Tech," but this would definitely be a loss of our cultural heritage!

Jacques Touret
Musée de Minéralogie
École des Mines
Paris, France

THE MUSEUM DIRECTORY

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E-mail: hvanater@stetson.edu
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E-mail:pbartos@mines.edu
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E-mail: robinson@mtu.edu
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New Mexico Bureau of Mines & Mineral Resources—Mineral Museum

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Associate Curator: Robert Eveleth
Tel: (505) 835-5325
E-mail: beveleth@gis.nmt.edu
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Specialty: Arizona minerals

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Washington, DC 20560-0119
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William Weinman Mineral Museum

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E-mail: joses@weinmanmuseum.org
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Mailing Address:
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Museo Civico di Storia Naturale

Curator: Dr. Federico Pezzotta
Tel: +39 02 8846 3326
Fax: +39 02 8846 3281
E-Mail: Federico.Pezzotta@comune.miland.it
Department of Mineralogy and Petrography
Corso Venezia, 55
I-20121 **Milano,** Italy
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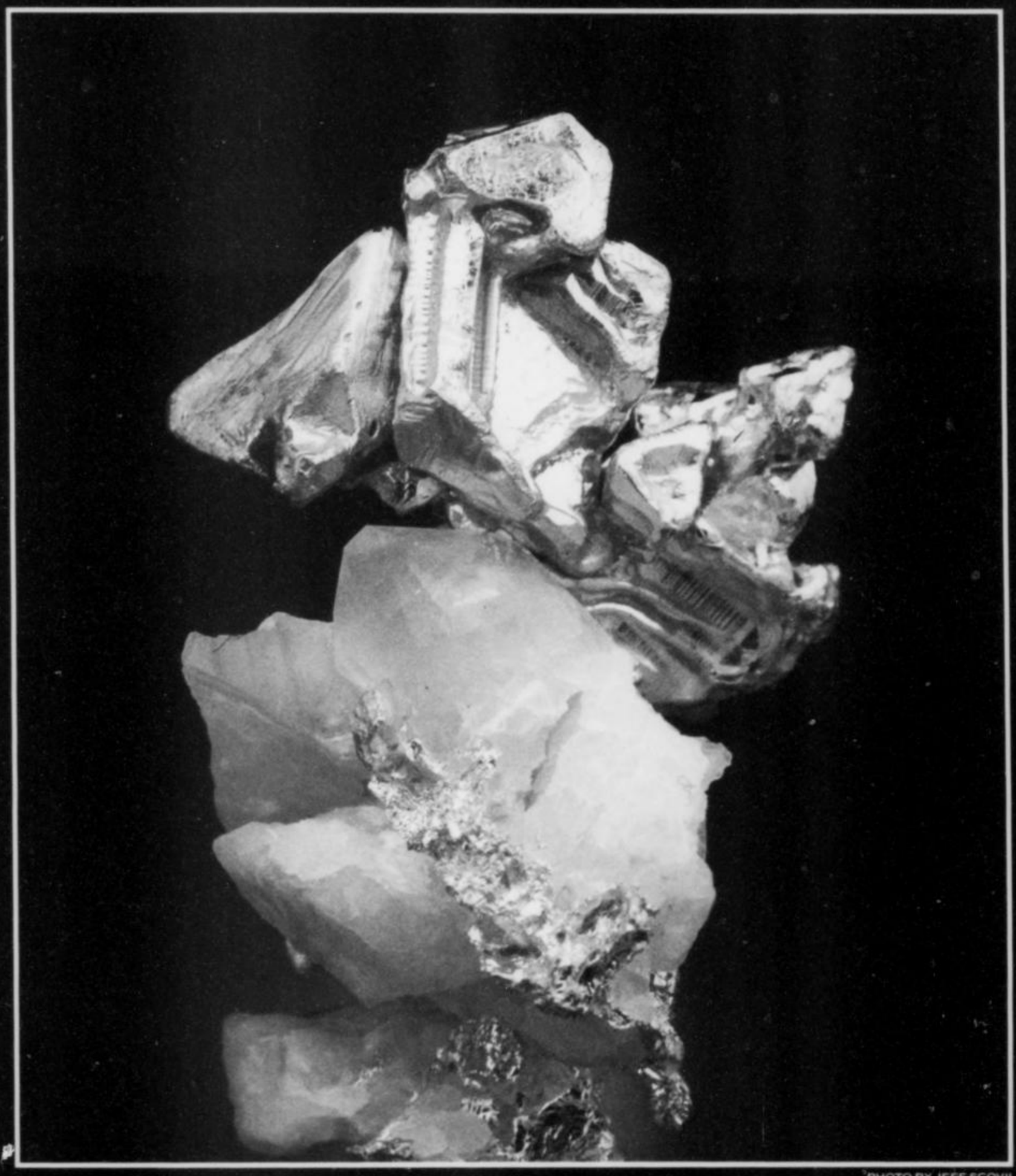

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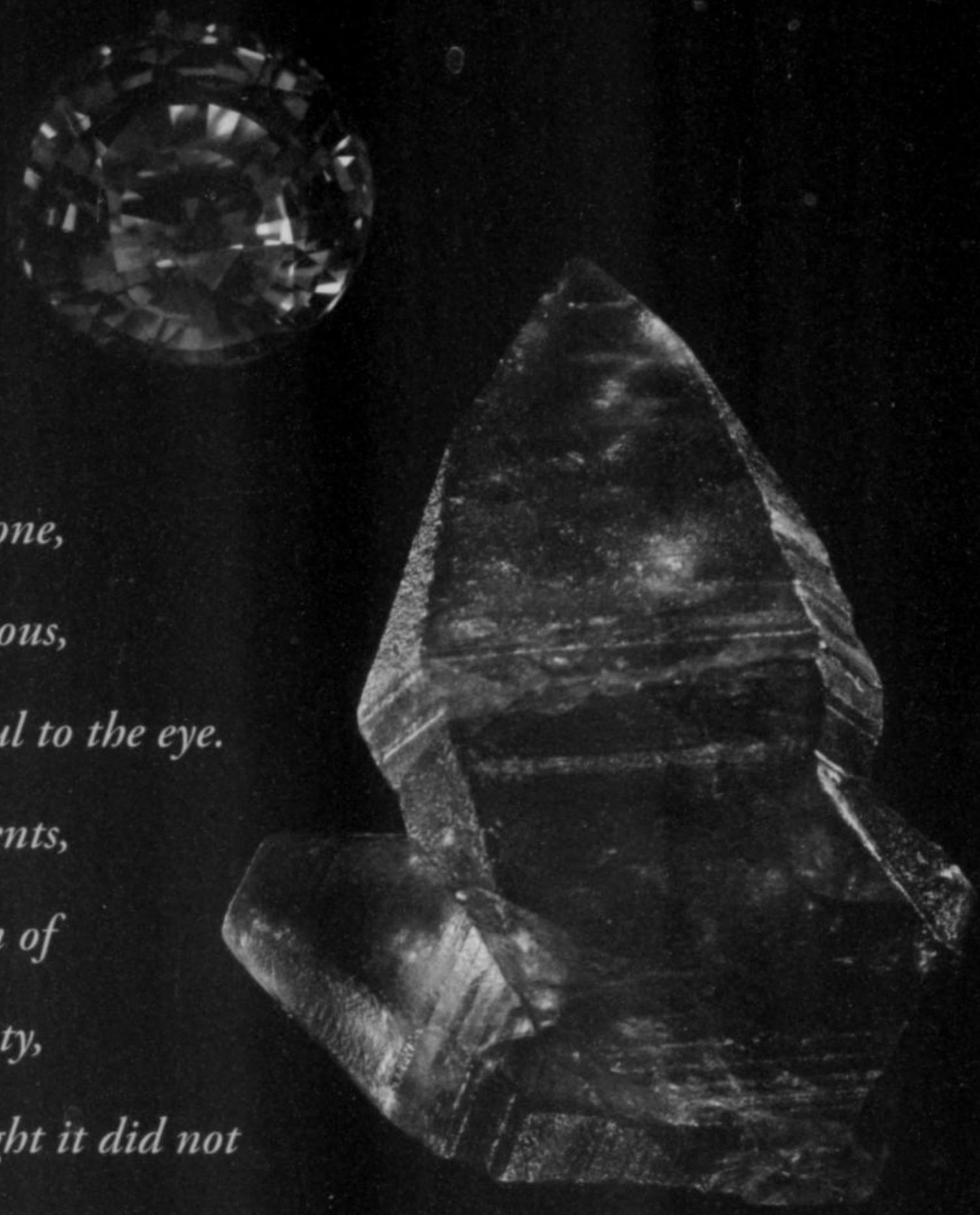

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