New York State: A Topographic Mineralogy



Dr. Steven C. Chamberlain Dr. George W. Robinson Susan M. Robinson

Upper Left: Pyrite. Pierrepont Mine, St. Lawrence County. SCC Upper Right: Barite, Hematite. Chub Lake Prospect, St. Lawrence County. JS Lower Left: Diopside, Quartz. Calvin Mitchell Farm, St. Lawrence County. SN Lower Right: Microcline (Amazonite), Valhalla, Westchester County. SCC

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Privately Published

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This is a work of nonfiction. It includes information from the published literature, unpublished results from the authors' professional work, unpublished data from existing catalogs of mineral collections, and expert interpretation by the authors.

We encourage widespread dissemination of the information in this online book to interested readers. When information from our work is incorporated into other works, we would appreciate a citation.

Maps, sketches, and photographs are available for not-for-profit use provided credit is given.

Dedication

We dedicate this volume to the many people, both amateurs and professionals, who have discovered and documented mineral occurrences in New York State. Without their tireless efforts, this volume would not have been possible.

Acknowledgements

A book about the mineralogy of New York State is of necessity a compendium of knowledge that goes back to colonial times. Much of the early knowledge has been published in one form or another, and is included in this book. In making our book as up-to-date as possible, we relied on our own extensive collecting experience and discussions with other contemporary mineral collectors, curators, and researchers.

We are grateful to Mike Walter, Donnie Carlin, Jr., Scott Sutherland; the late Schuyler Alverson, the late Charlie Bowman, the late Bill Condon, the late Robert Dow, the late Ron Waddell, the late Elmer Rowley and many others for sharing their knowledge about newly discovered and re-discovered localities. We thank Dr. Dave Bailey, Dr. Jeff Chiarenzelli, and the late Dr. Marian Lupulescu for their collaborative efforts in identifying various mineral species. We thank Mike Hawkins and the late Dr. Marian Lupulescu for making the specimens at the New York State Museum available for our study. We thank Dr. Carl Francis for similar access to specimens at Harvard University.

We appreciate the practical assistance Greg Stone provided. Dr. Helen Chamberlain and Dr. David Bailey performed the final proofreading.

We acknowledge the many photographers whose work was invaluable to complement our own. The list of contributing photographers is:

CD – Cano Davy ER – Eric Rutnik GBG – George & Barbara Gearhardt GR - Glen Rhein GWR - George Robinson HS – Herb Spiselman JC – Jodi Carlin JB – John Betts JJ - John Jaszczak JR – Joey Rivera JS – Jeff Scovil MH – Mike Hawkins MM & AN - Michael Mizutani & Arline Nakanishi MVL - Marian Lupulescu MW – Mike Walter RB – Ron Barber SCC – Steve Chamberlain SN - Steve Nightingale SR - Susan Robinson TS – Tom Spann

All of the pencil sketches were drawn by author Susan Robinson (SR).

Abbreviations used in figure captions:

AESM – A. E. Seaman Museum

AMNH - American Museum of Natural History

BVH - Bill & Viki Hladysz Collection

CMN - Canadian Museum of Nature

DS – Dean Stahl Collection

FLGMFC – Finger Lakes Gem, Mineral, and Fossil Club

GMSS – Gem and Mineral Society of Syracuse

NYMC – New York Mineral Club

NYSM – New York State Museum

WdL - William deLorraine Collection

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Foreword

New York State: A Topographic Mineralogy is a long-overdue synthesis and summary of the known minerals and mineral occurrences in New York State. Drs. Chamberlain and Robinson are two widely respected scientists with over 100 years of combined experience collecting and identifying minerals with a focus on the minerals of New York State. Their knowledge and expertise are evident in this well-organized and carefully researched book.

The authors describe well-known and/or important mineral occurrences by county rather than by the more conventional methods of listing mineral species alphabetically or by Dana classification. This is a more useful approach for both the casual mineral collector and for scientific researchers. The general location maps, along with the GPS coordinates for most of the described mineral localities, provide an important resource for future research.

Another very useful feature of this book is that, for each locality, the authors list the associated mineral species, provide a brief notation on the general geological setting of the mineralization, and provide a list of scientific publications related to each site. While noting that detailed geological descriptions of the mineralization at each locality were beyond the scope of the book, the geological information that the authors do include is useful and interesting, and is rarely provided in traditional mineral collecting guidebooks.

The final features that set this book apart from most other mineralogy review volumes are the abundant illustrations. Professional quality color photographs nicely document the size, color, and habit of over 550 mineral specimens, and beautiful black and white sketches of selected mineral specimens and collecting localities by Susan Robinson add to the elegance and aesthetic beauty of the volume.

In summary, *New York State: A Topographic Mineralogy* is an important scientific publication that documents the current state of knowledge of the diversity and distribution of mineral species throughout the state. It is also a beautiful text that will be used and appreciated by anyone interested in minerals and mineral collecting. This will be the definitive reference volume for mineral occurrences in New York State for the foreseeable future.

David G. Bailey, Ph.D. Winslow Chair of Modern Science & Professor of Geoscience Hamilton College

Jeffrey R. Chiarenzelli, Ph.D. Charles A. Dana Professor of Geology St. Lawrence University

Preface

I began serious mineral collecting when I was in junior high school using the first edition of *Mineral Collecting in Pennsylvania* by Davis Lapham and Alan Geyer. This field guide published by the state was arranged topographically by county, so it's probably not surprising that 60 years later I am an author on this volume. Since I lived in the state capital, I was soon meeting with Dr. Lapham every month or so to show him what I had recently collected and verify my identifications. This mentoring continued for four years until I went to college. During this time, my friends and I added several mineral species to the Pennsylvania list, and I firmly established field collecting as my preferred activity. An important point of view I adopted from Dr. Lapham was that specimens without localities are not very useful.

In college, I undertook a minor in mineralogy and interacted frequently with Dr. Martin J. Buerger. He once mentioned to me on a field trip that I had an advantage because I could sight-identify most of what I saw and thereby focus my field collecting. Dr. Buerger also recommended that I keep my mineral collecting as an avocation so I could chart my own course. He was correct.

When I began graduate studies, I moved to New York State and shifted my area of interest to New York and adjacent Ontario and Quebec. Initially, I was adopted by the field-collecting triumvirate of the local club – Ron Waddell, Geoff Palin, and John Davis. It was through them that I met co-author George Robinson, who shared my interests in topographic mineralogy. As the years went by, I shifted my focus to just New York State and was aided and abetted by Bill Condon with whom I went collecting every Saturday for years in the early 1980s. Bill especially liked tracking down lost localities and I also adopted it as a priority.

Around 1990, I stopped collecting anything not from New York State and then began to disperse specimens in my collection from elsewhere. Thereafter, my godson Donnie Carlin developed a serious interest in field collecting and we spent many years together collecting mostly in St. Lawrence County and preparing specimens to enter my collection. I have now donated my collection to the New York State Museum in Albany.

All through this period, George and Susan Robinson and I became like-minded close friends who were determined to write a mineralogy of New York State. This volume is finally the result. *--Steve Chamberlain, Manlius, NY, 2023*

Minerals have fascinated me since childhood, and I am fortunate to have had many opportunities to study them from a broad spectrum of viewpoints, understanding, and appreciation, ranging from a novice "rockhound" to those of a worldly mineral dealer, connoisseur collector, museum curator or university professor. On this journey, I have met many helpful individuals to whom I owe a debt of gratitude, since their guidance and the information they shared set me firmly on my way to make minerals the focus of my life's work. Virtually all these individuals maintained private mineral collections, the content of which was often rich in specimens from New York State. In addition to all these specimens, the entire collections were accessible to me at the New York State Museum when I was employed as a curatorial assistant for a 3 month-long summer job in the late 1960s. As a result I became well-versed in the mineralogy of the State.

While viewing all these specimens, I would sometimes come across one that was of exceptional quality and unlike any that I had ever previously encountered. While such finds were certainly exciting, they were also extremely frustrating, for when I checked the catalog, the only information regarding where they were found was listed as "locality unknown" or something equally as vague as simply "New York" or "St. Lawrence County, New York". Consequently, other than perhaps serving as an exquisite example of Nature's art, such specimens are of limited use. Nevertheless, I made note of them, hoping that one day I might learn the exact locality from which they came. Little did I know that someone else shared the same viewpoints and frustration as I.

From the day we first met, some 50 years ago, I knew that Steve Chamberlain and I were to become close friends and colleagues since we shared the same mineralogical interests, including searching for "lost" mineral localities in St. Lawrence County, and New York minerals in general. The information we have compiled and presented in the pages that follow is comprehensive, and includes what we now know about those occurrences formerly relegated as "locality unknown". This compendium has been a long time in the making, but it has also been my pleasure to have worked with Steve on it.

Locality data are perhaps the most important information that one can record for a mineral specimen. Any competent mineralogist can identify a specimen, but only the person who collected it knows for certain where it was found.

--George W. Robinson, Ogdensburg, NY, 2023

For many years, my husband and I have been searching the mineralogical and natural history literature to gather data and, hopefully, find localities, that have been lost to time. I have enjoyed this effort, since many times other information has been found on mineral and mine sites of which we were unaware. When Steve Chamberlain asked if I'd be interested in helping produce this book, I agreed without hesitation. The volunteer time I have spent in the St. Lawrence County Archives and my familiarity of New York State minerals seems to have proved valuable for this project, which has been long overdue. Former authors recorded the minerals and their localities as best as the technology of time allowed, but the information was scattered in many tomes and papers. Today, GPS and the internet transform wordy descriptions of mine sites into specific data to more easily find these places. I am pleased to have been a part of putting together this book and hope that whoever reads it will find it helpful.

--Susan M. Robinson, Ogdensburg, NY, 2023

Introduction

In 1842, Lewis Caleb Beck wrote a comprehensive mineralogy of the State of New York—*Mineralogy of New-York*—the first book of its kind published for a single state in the United States. The initial part of the book discussed categories of occurrences, focusing on mineral wealth that was being, or could be, exploited commercially. The second part discussed individual mineral species grouped by compositional categories. For each species, occurrences were presented geographically by county. The classification system for minerals proposed by Swedish chemist Jöns Jacob Berzelius in 1819, which was based on chemistry and crystallography and was later adopted by James Dwight Dana and his son, Edward Salisbury Dana, was not yet the standard in the United States, so the mineral groupings, as presented, may not be completely familiar to readers today. The localities included represent a combination of previously published information and new information discovered directly by Beck. This seminal work still makes interesting reading and is a thorough snapshot of what was known about mineral localities in New York State just before the American Civil War.

One hundred and eighty years later, we here present another comprehensive mineralogy of New York State, incorporating the vastly expanded knowledge of mineral occurrences and mineral nomenclature, but now arranged topographically as a gazetteer and presented alphabetically by county. In the interim, so much has been published or is readily available online (e.g. <mindat.org>) that we view it as unnecessary to quote, paraphrase, or summarize what is already available. Rather, we have plotted localities on county maps, keyed to listings giving the species found, the common names by which the localities are known, the geological setting of each occurrence, and GPS coordinates where known. Citations to published literature given in the Literature Cited section at the back of the book will steer readers to detailed published information. Likewise, <mindat.org> and other online resources can provide similar detailed information. Photos illustrating specimens are usually included with each listing.

We have plotted all localities for which GPS coordinates and specimens are available on the corresponding county map and have also included lists of many lost localities for which published references and specimens exist, but whose locations in the field are presently lost. The latter are not plotted on the map, but appear at the end of the gazetteer section for each county.

Previously Published Resources

Beck's 1842 complete mineralogy was preceded by a gazetteer for the entire United States published by Samuel Robinson in 1825— A Catalogue of American Minerals with their Localities. With the publication of various editions of textbooks and systems of mineralogy, the father-son team of James Dwight and Edward Salisbury Dana's final (1898) edition of the system of mineralogy—*Dana's System of Mineralogy* 6th edition contains a gazetteer (Catalogue of American Localities of Minerals) that summarizes what was known in the 19th century. Herbert P. Whitlock published a gazetteer of New York mineral localities arranged by county in 1903—*New York Mineral Localities*. David E. Jensen published a complete mineralogy in 1978—*Minerals of New York State*. Two of the present authors (GWR and SCC) published modern listings of localities in 2007— "The gems of New York State" and "Gazetteer of major New York State mineral localities" in *Rocks & Minerals*.

Lather Wineralogies of New Tork State					
Author	Year	Format			
Robinson	1825	Gazetteer			
Beck	1842	Complete			
Dana	1898	Gazetteer			
Whitlock	1903	Gazetteer			
Jensen	1978	Complete			
Robinson & Chamberlain	2007	Gazetteer			

Earlier Mineralogies of New York State

It is interesting to consider the training and experience of these chroniclers of New York State minerals. Samuel Robinson, MD, for example, was a medical doctor with a serious interest in minerals.

Lewis Caleb Beck earned a degree at Union College in 1815 and then studied medicine and was licensed to practice in 1818. He was variously a professor of botany, chemistry or natural history at the Rensselaer Polytechnic Institute, the Vermont Academy of Medicine, Rutgers College and the Albany Medical College. During his career, he made significant contributions to the fields of botany, chemistry and mineralogy.

James Dwight Dana studied natural history with an emphasis on geology at Yale. After going to sea, first to teach and then to participate in the Wilkes Expedition, he returned to Yale as a professor at age 43 and served there until his death. His son, Edward Salisbury Dana, graduated from Yale and then spent two years with George J. Brush at the Sheffield Scientific School in England, and another two years in Heidelberg and Vienna, specializing in crystal optics and crystallography. He returned to Yale to earn M.A. and Ph.D. degrees. He was originally appointed assistant professor of natural philosophy and astronomy at Yale but later became professor of physics. Throughout his tenure at Yale, his main research area was mineralogy.

Herbert Percy Whitlock earned a degree in civil engineering from the School of Mines at Columbia University. He worked for several as an assistant in mineralogy at the New York State Museum and then served as mineralogist for 12 years. He was New York State Mineralogist for several years before becoming the Curator of Minerals at the American Museum of Natural History, a position he held for 23 years.

David E. Jensen earned a degree in chemistry with a minor in mineralogy from Cornell University and then an MS in geology at the University of Rochester. While a graduate student, he joined Ward's Natural Science Establishment where he became a vice president until his retirement.

George W. Robinson earned a degree in geology from SUNY Potsdam and a Ph.D. in geological sciences from Queen's University in Kingston, Ontario. He served as curator at the Canadian Museum of Nature before becoming curator at the A. E. Seaman Mineral Museum and professor of mineralogy at Michigan Technological University until his retirement.

Steven C. Chamberlain earned a degree in electrical engineering with a minor in mineralogy from M.I.T. and a Ph.D. in neuroscience from Syracuse University. He held a faculty position at Syracuse University for 29 years, retiring as a professor of bioengineering and neuroscience.

In addition, there are a number of very useful, more focused locality listings including John Conover Smock's 1889 NYS Museum Bulletin—"Iron mines and iron-ore districts in the State of New York"; David Hale Newland's NYS Museum Bulletins—"The mineral resources of the State of New of New York; James Greenfield Manchester's 1931 book—*Minerals of New York City and its Environs*; and many others. We have endeavored to pull information from these publications into the current gazetteer.

Evolution of the Content of Locality Listings

How the actual location of a mineral locality was described in published works and on labels accompanying specimens has evolved significantly since the early efforts of Samuel Robinson and Lewis Caleb Beck. The most common source of confusion in early descriptions was the village/town(ship) dichotomy. Most town(ships) in New York State contain a village of the same name, e.g. the village of Rossie in the town of

Rossie. In earlier descriptions, unless the locality had a commercial name, e.g. the Maltby mine, too often the locality was listed by a single place name. A hint can be found in the word modifying the name. So, a locality *in* Gouverneur is likely to be in the town of Gouverneur, whereas one *near* Gouverneur is probably close to the actual settlement/village/city. Older descriptions linking location to rivers or lakes can be helpful, although sometimes confusing as when reference is made to the left or right bank of a river or stream. By convention, the right or left designation assumes one is facing upstream. Some locality descriptions (e.g. Smock, 1889) give detailed positions of the occurrence relative to the nearest railroad mainline or spur, although many of these railroads no longer exist. Another common designator, based on property ownership, such as "on the farm of John Little", is also frequently used. Historical land ownership records, if they have not been destroyed by fire or flood, can usually be found in the county seat; however, significant time and energy is usually required to extract specific location information from these records.

The name of even well-established, famous occurrences may change with time. This is true for farms, quarries, mines and sometimes even place names including streams, lakes, and villages. So besides establishing exactly where the mineral locality is, having knowledge of earlier locality names becomes important. The well-known Gouverneur locality for brown tourmaline was subsequently called the Reese farm, the Jones farm, and now the Bush farm after successive landowners. We have tried to include as many synonymous names as possible in parentheses following our understanding of which is the most contemporary name. Sometimes a geographical name is the clearest. For example, the large dolostone quarry in St. Johnsville is the only such large quarry in the vicinity. Rather than use the name of previous owners (Benchmark or Hanson or Talarico), we have just listed it as the St. Johnsville quarry. In some cases where there are large suites of specimens in institutional collections with a particular locality name, we have listed that name as the first locality name. To summarize, we have valued clarity over procedural consistency.

With the advent of widespread use of Global Positioning Satellite (GPS) coordinates, the problem of specifying *where* a locality is, or was, has been greatly simplified. Direct use of a GPS meter or marking the precise location on a USGS topographic map and then using online websites to determine the precise GPS coordinates of the mark on the map both yield excellent locality information if done carefully. Although finding a locality from GPS coordinates in the field requires some experience, they are still far more immutable than the directions typically given in a collecting guide where route numbers may change, bridges may be removed, and so on. We do not intend this work as a collecting guide, but rather as a factual record that might be the starting point for producing a collecting guide.

Geological Environment

Providing detailed geological information about the rocks in which a mineral locality occurs is well beyond the scope of this book. Instead, we have indicated the general geological setting by the single letters: S, C, F, B, A, and E as described below.

S – indicates that the mineralized area is bedded in sedimentary rocks and is normally stratabound, conforming with the layers in the sedimentary sequence.

C – indicates that the mineralized area sits in crystalline rocks of igneous or metamorphic origin.

F – indicates that the mineralized area is fracture-filling and was usually formed from solutions (often hydrothermal) moving along fractures.

B -indicates that some of the minerals at the locality formed by biogenic processes.

A - indicates that some or all of the minerals at the locality have been chemically altered subsequent to initial formation.

E – indicates that the origin of the minerals is extraterrestrial, i.e. a meteorite.

It is probably obvious that some of the more complex and interesting occurrences may have several of these designators. For example, the occurrences in the Balmat District in St. Lawrence County are basically

contained in crystalline rocks (C), but most of the well-crystallized specimens of greatest interest to collectors come from mineralized fractures (F) that cut through the earlier crystalline rocks. Similarly, the panoply of minerals found at the Tilly Foster mine near Brewster in Putnam County resulted from a rolling paragenesis that began with placement in crystalline rocks (C) and continued through mineralization of later fractures (F) and subsequent alteration (A).

Type Localities in New York State

Minerals First Described from New York State (Type Localities)						
Mineral		Locality	County			
<i>Clintonite</i> ¹	. 1829	.Amity	Orange			
$Warwickite^2$.1838	. Warwick	Orange			
<i>Edenite</i> ³	.1839	.Edenville	Orange			
$Hydrotalcite-2H^4$	1941	. Amity	Orange			
<i>Geerite⁵</i>	. 1980	.Town of De Kalb	St. Lawrence			
		.Empire State #4 Mine, Balmat				
$Turneaureite t^7 \dots \dots$	1985	.Empire State #4 Mine, Balmat	St. Lawrence			
Brewsterite-Ba ^{†8}	.1997	. Valentine Property, Harrisville	. Lewis			
Fluoro-pargasite ⁹	. 2003	.Edenville	Orange			
Potassic-fluoro-hastingsite ¹⁰	. 2005	. Greenwood Mine	Orange			

†Indicates co-type locality

²Shepard, C.U. (1838) Notice of warwickite, a new mineral species. *American Journal of Science and Arts* 34:313-31

³Glocker, E.F. (1839) IX. Amphibolite 5. Edenische Hornblende oder Edenite. In: *Grundriss der Mineralogie mit Einschluss der Geognosie und Petrefactenkunde*. Verlag Scrag, Nürnberg, 410; Kearns, L.E. (1977): The Mineralogy of the Franklin Marble, Orange County, New York. Ph.D thesis, Univ. of Delaware, Newark, Delaware.

⁴Frondel, C. (1941) Constitution and polymorphism of the pyroaurite and sjögrenite groups. American Mineralogist 26: 295-315.

⁵Goble, R.J., Robinson, G. (1980) Geerite, Cu1.60S, a new copper sulfide from Dekalb Township, New York. *The Canadian Mineralogist* **18**;519-523.

⁶ Petersen, E.U, Anovitz, L.M., Essene, E.J. (1984) Donpeacorite, (MN,Mg)MgSi2O6 a new orthopyroxene and its proposed phase relations in the system MnSiO3-MgSiO3-FeSiO3. *American Mineralogist* **69**: 472-480.

⁷ Dunn, P.J., Petersen, E.U., Peacor, D.R. (1985) Turneaureite, a new member of the apatite group from Franklin, New Jersey, Balmat, New York and Långban, Sweden. *The Canadian Mineralogist* **23**: 251-254.

⁸Robinson G. W., Grice J.D. (1993) The barium analog of brewsterite from Harrisville, New York. *The Canadian Mineralogist* **31**: 687-690.

⁹Lupulescu, M.V., Rakovan, J., Robinson, G.W., Hughes, J.M. (2005) Fluoropargasite, a new member of the calcic amphiboles from Edenville, Orange County, New York. *The Canadian Mineralogist* **43**: 1423-1428.

¹⁰Lupulescu, M.V., Rakovan, J., Dyar, M.D., Robinson, G.W., Hughes, J.M. (2009) Fluoro-potassichastingsite from the Greenwood mine, Orange County, New York: A new end-member calcic amphibole. *The Canadian Mineralogist* **47**: 909-916.

A type locality is normally the first occurrence from which a new mineral species is characterized and named. Sometimes a new species is described using specimens from two or more different localities, in which case, each is a co-type locality. At present, there are ten type localities or co-type localities in New York State, although hydrotalcite-2H is a polytype of hydrotalcite and was originally described as the new species manasseite. It is not clear whether the first discovered occurrence of a polytype is a type locality in the strict sense. Two species, fluoro-pargasite (fluoropargasite) and potassic-fluoro-hastingsite (fluoropargasite) have been renamed since they were first described.

¹Finch, J. (1829) Notice of the locality of the bronzite, Jameson; or diallage metalloid, Huay and Brongniart; at Amity, Orange County, State of New York. *American Journal of Science*, series 1, **16**: 185-186.

Meteorites Found in New York State

Although meteorites are naturally occurring objects, they represent the results of extra-terrestrial processes. Neither the geology nor mineralizing processes where they were found has anything to do with their original formation. Depending on the length of time between when they fell and when they were discovered, chemical weathering processes may have altered their original composition. Thus far, there have been 11 meteorites found and confirmed in New York State. Each year there are numerous objects discovered that are initially thought to be meteorites, but which turn out to be terrestrial in origin.

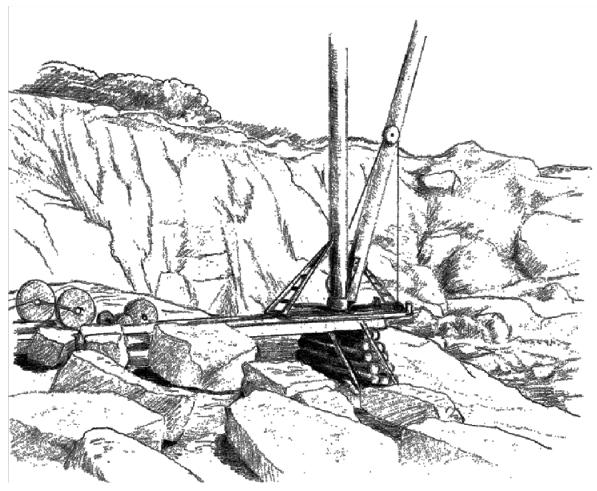
Meteorite Name	Date	Weight	Туре	County
Bethlehem	1859	13.9 kg	Chondrite	Albany
Burlington	1819	68 kg	Iron	Otsego
Cambria	1818	16.3 kg	Iron	Niagara
Lasher Creek	1948	640 g	Iron	Montgomery
Mount Morris	1897	12.5 g	Chondrite	Livingston
Peekskill	1992	12.57 kg	Chondrite	Westchester
Schenectady	1968	283 g	Chondrite	Schenectady
Seneca Falls	1850	4 kg	Iron	Seneca
South Byron	1915	6 kg	Iron	Genesee
Tomhannock Creek	1863	1.5 kg	Chondrite	Rensselaer
Yorktown	1869	250 g	Chondrite	Westchester

Meteorites Found in New York State

Besides being interesting as examples of the nature of extra-terrestial objects, meteorites can also become typelocalities for new minerals or sources of rare minerals. For example the Ni-serpentine pecoraite — a very desirable pseudomorphous mineral after millerite from the Sterling Mine near Antwerp, NY—was originally found as an alteration product from quartz sand in fractures of the Fe-Ni Wolf Creek meteorite in western Australia. Reidite, a high-pressure polymorph of zircon, was also found at the Wolf Creek Crater and many other meteorite craters, although it was first discovered in marine sediments, presumably having been dispersed from meteorite impacts.

Which Localities are Included

Although done informally, we tried to include only occurrences that made sense to a mineral collector or "specimen mineralogist". We sought out all those localities with published descriptions as well as those represented by specimens in institutional and well-curated private collections if there was reasonable provenance. The building of a topographic database of mineral occurrences is an ongoing process. Recently discovered localities not yet published or described were included if we were able to interview the discoverer and see specimens. In toto, the authors have 150 years of experience examining collections, interacting with field collectors, and directly collecting in the field. We have rediscovered numerous "lost" localities and interviewed others who had done so. Our procedures probably resemble to some degree those used by Beck in gathering data for his 1842 mineralogy. These procedures are subjective and not error free. We may have included some "lost" localities that will never be found because the original information was incorrect in some significant way. We may have also excluded some localities that will eventually be rediscovered and exploited to good effect. For example, in considering the myriad of magnetite occurrences documented by Smock (1889), some of them are known because significant numbers of labeled specimens have been preserved. As for the others, if the production reported was large, the probability that documented specimens exist is higher than for a prospect pit opened and then abandoned. In general, we included the former and excluded the latter. The process of logical analysis combined with one's "gut feeling" is not foolproof, but it's the best approach we have.



Valhalla Quarry, Westchester County. SR

County Maps and Locality Listings

This section is the body of this book. Here we present maps of each New York State county with the county seat marked and identified and each mineral locality for which we have GPS coordinates, plotted and numbered sequentially. The next pages list the information for these localities. A second listing of the occurrences that have yielded specimens in the past, but are currently lost, follows those that are plotted on the map.

The localities plotted on the map are relatively well-known to mineral collectors, institutional collection curators and professional mineralogists. All of them fit into one or more of the following categories: 1) they have been published; 2) they have been visited by the authors; or 3) they are well known to mineral collectors through field trips.

The localities listed thereafter, and currently considered lost, largely fit into one or more of these other categories: 1) they have been mentioned in the published literature without adequate information about exact location; 2) they are represented in institutional collections and well-curated private collections, but have never been documented as to exact location; or 3) the exact locality was kept secret by the discoverer and has not been revealed publicly.

The search for these lost localities is a specialized part of amateur and professional mineral collecting. It often leads to developing extensive knowledge of the relevant literature. It expands the participants' range of outdoor experience beyond organized field trips to known sites. It encourages gaining access to, and scrutinizing, pre-existing collections and their catalogs in the hope that individual specimen labels might have unique clues to the exact location. It encourages individuals to refine their sight-identification skills because a specimen in a collection may appear quite different from a specimen *in situ*. Finally, it may make the problem of lost and undocumented localities worse as the seeker finds new localities while looking for lost localities. No one ever seems to complain about this last point.

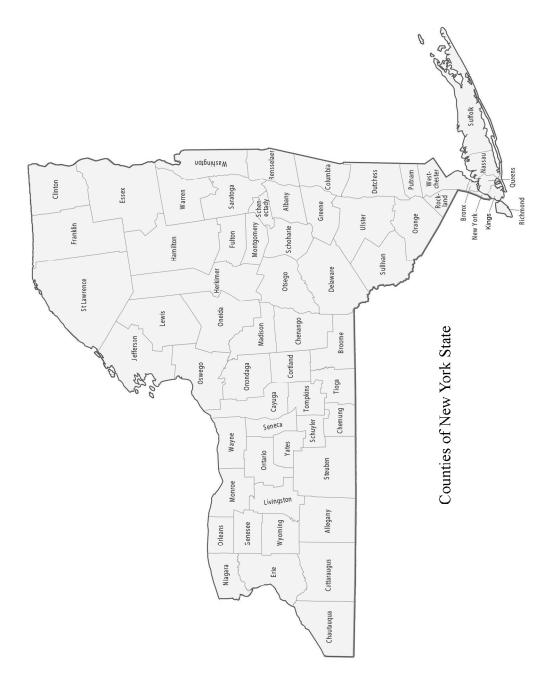
As the pages of this section show, there is significant variability in the density of mineral localities across New York State. This is probably in large part due to the variability of the bedrock geology. The extensive area of bedded sedimentary rocks in central and western New York might be expected to yield far fewer noteworthy localities than the older metamorphic rocks of the northern region of the state or the similar rocks in the southeast region. However, given the nature of prospecting and exploring for localities of collectible minerals, the variability may also reflect the cumulative distribution of collecting activity since the state was settled. Collectors are quite naturally drawn to parts of the state already known to have mineral localities. As a result, the disparity between regions where mineral localities are sparse and those where they are plentiful may have been enhanced.

Because each of the authors has been actively collecting minerals in the field for decades, we are to a degree aware of the seeming hopelessness of comprehensive locality documentation. It is clearly an open-ended task. At the same time, we understand that we won't live forever and something like an interim progress report may be useful to others and is thereby warranted.

Notes:

¹⁾ Listing of localities in this book does not grant, nor imply, permission to trespass on private property. Permission from the landowner is *always* necessary before visiting a locality on privately-owned land. Please obey the law.

²⁾ In the remainder of this section, descriptions of known localities generally use mineral names that are current species or groups. The descriptions of lost localities often have a mixture of species, groups, varietal names, and discredited names.





Field collecting in New York State in a streamside trench on the Powers Farm in St. Lawrence County (above). This day yielded a nice 5.8-cm specimen of dravite (below). SCC18845 and photo.





Ravena Quarry. SR

- Bethlehem Meteorite, Olivine-bronzite chondrite (E), fell 11 August 1859. *Minerals:* Enstatite (Bronzite), Olivine. 13.9 kg. Town of Bethlehem. GPS: (42°32'N, 73°50'W) *Reference:* Robinson & Chamberlain, 2007b
- Indian Ladder Brookite Locality (F). *Minerals:* Brookite, Calcite, Celestine, Gypsum, Pyrite, Quartz, Sphalerite, Strontianite. Mine Lot Falls, Indian Ladder, John Boyd Thacher State Park. Town of New Scotland. GPS: (42°39'28"N, 74°01'00"W) *References:* Whitlock, 1903; Robinson & Chamberlain, 2007b



(L) Brookite, Quartz. Indian Ladder. 2-mm xl. NYSM specimen. SCC photo. (R) Calcite. Ravena Quarry, 4.7 cm. SCC40306 specimen and photo.

 Ravena Quarry (Lafarge Quarry, Blue Bell Quarry) (S). *Minerals:* Aragonite, Calcite, Goethite, Hematite, Marcasite, Pyrite, Quartz. Ravena. Town of Coeymans. GPS: (42°29'28"N, 73°50'04"W) Reference: Specimens in private collections

Localities without GPS coordinates (not shown on map)

Calcite Locality (S). *Minerals:* Calcite, Gypsum. Town of Bethlehem. *Reference:* Dana, 1898

Callanan Quarry (S). *Minerals:* Barite, Dolomite, Strontianite. Altamont. Town of Guilderland. *Reference:* Robinson & Chamberlain, 2007b

Crystal Hill Quartz Locality (S). *Minerals:* Epsomite, Gypsum, Quartz. Coeymans (originally Coeymans Landing), Glenmont, Crystal Hill, 3 miles south of Albany. Town of Coeymans. *References:* Dana, 1898; Whitlock, 1903

New Salem Pyrite Locality (S). *Minerals:* Pyrite. In shale 0.5 miles south of New Salem. Town of New Scotland. *Reference:* Whitlock, 1903

Normans Kill Locality (S). *Minerals:* Calcite, Pyrite, Quartz. North bank of Normans Kill, Kenwood. Town of Bethlehem. *Reference:* Whitlock, 1903

Watervliet Quartz Locality (S). *Minerals:* Quartz. Watervliet. Town of Colonie. *Reference:* Dana 1892

Bronx County



NB: Bronx County has no designated county seat.

- Almandine Locality (C) *Minerals:* Almandine. 144th Street at Brook Avenue. GPS: (40°48'42"N, 73°55'01"W) *Reference:* Betts, 2009
- Titanite Locality (C). *Minerals:* Titanite. Excavations at 165th Street and Webster Avenue. GPS: (40°49'41"N, 73°54'52"W) *Reference:* Betts, 2009
- Pyrite Locality (C). *Minerals:* Pyrite. St. Ann's Avenue and 145th Street. GPS: (40°48'42"N, 73°54'52"W) *Reference:* Betts, 2009
- Mountain Leather Locality (F). *Minerals:* Calcite, Mountain Leather. 174th Street and Grand Concourse. GPS: (40°50'41"N, 73°54'41"W) *Reference:* Betts, 2009



Mountain Leather, Calcite. 19 cm. 174th Street and Grand Concourse. NYMC757. JB photo.

 Williams Bridge Locality (C). *Minerals:* Titanite. Gunn Hill Road. GPS: (40°52'43"N, 73°52'15"W) *Reference:* Betts, 2009

Localities without GPS coordinates (not shown on map)

Actinolite Locality (C). *Minerals:* Actinolite, Calcite, Quartz. Southern Boulevard and Brown Place. *Reference:* Betts, 2009

Asbestos Locality (C). *Minerals:* Amphibole (Asbestos), in mica schist. Spuyten. *Reference:* Whitlock, 1903

Calcite Locality (F). *Minerals:* Calcite. East 167th Street. *Reference:* Betts, 2009

Chlorite Locality (C). *Minerals:* Clinochlore, Graphite, Titanite, Tremolite. Kingsbridge. *Reference:* Whitlock, 1903

Diopside Pseudomorph Locality (C). Kaolinite (replacing Diopside). 169th Street and Central Avenue. *Reference:* Betts, 2009



Kaolinite after Diopside. 5-cm xl. 169th Street and Central Avenue. NYMC692. JB photo.

Kaolinite Locality (C). *Minerals:* Kaolinite. Tremont. Reference: Whitlock, 1903

Quartz Locality (C). *Minerals:* Quartz (milky). Westchester Avenue. *Reference:* Betts, 2009

Quartz Locality (C). *Minerals:* Quartz (amethystine). 246th Street and Independence Avenue, Riverdale section. *Reference:* Betts, 2009

Quartz Locality (F). *Minerals:* Quartz (Amethyst). Dodgewood Road. *References:* Jensen, 1978; Robinson & Chamberlain, 2007a,b

Stilbite Locality (F). *Minerals:* Stilbite (red). West Farms, Tremont section. *Reference:* Betts, 2009

Tourmaline Locality (C). *Minerals:* Diopside, Mica, Pyrite, Tourmaline, Tremolite. Kingsbridge. *References:* Dana, 1898; Whitlock, 1903

Tourmaline Locality (C). *Minerals:* Tourmaline (brown xls in pegmatite). Morrisania. *Reference:* Whitlock, 1903

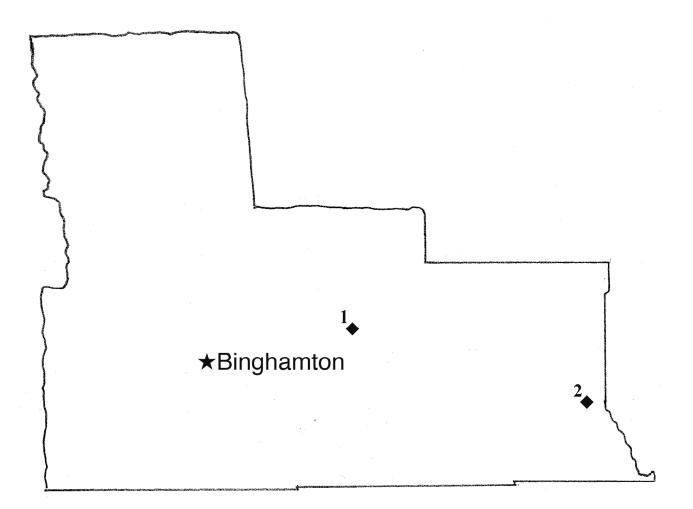
Water Tunnel No. 3, Shaft 7B. *Minerals:* Muscovite (pink). Under the Highbridge section. *Reference:* Betts, 2009

Zeolite Occurrences (F). *Minerals:* Calcite. Chabazite, Harmotome, Quartz (Amethyst), Stilbite. Various excavations. *Reference:* Robinson & Chamberlain, 2007b



Calcite. 7.3 cm. 174th Street Zeolite Occurrence. SCC15415 and photo.

Broome County

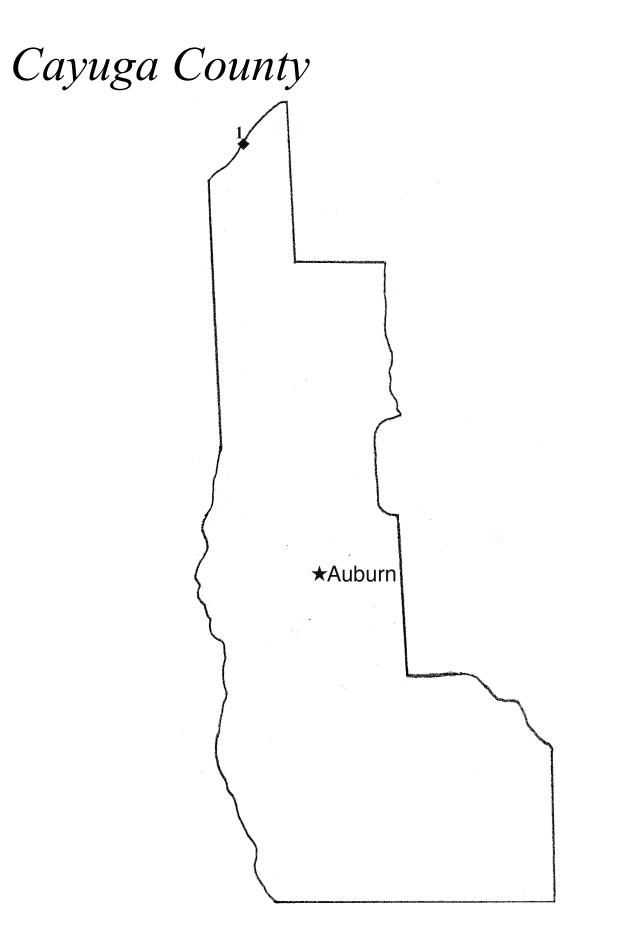


 Barrett Materials Quarry (S). *Minerals:* Calcite. Chenango Bridge. Town of Chenango. GPS: (42°06'16"N, 75°43'44"W) *Reference:* Unpublished



Calcite. Barrett Materials Quarry. 5 cm. Chenango Bridge. NYSM14367. SN photo

 Wheeler Quarry (S). *Minerals:* Aragonite, Opal-AN. Deposit. Town of Sanford. GPS: (42°03'30"N, 75°25'45"W) *Reference:* Zodac, 1945



 Southern Shore of Lake Ontario (S) *Minerals:* Sunset Stones (Sodalite, Meionite in pebbles) Town of Sterling. GPS: (43°21'41"N, 76°42'28"W) *Reference:* Unpublished



Sunset Stones (uv light) - Sodalite Syenite, Meionite. 9,5,13 cm. Southern shore of Lake Ontario. JR specimens and photo.

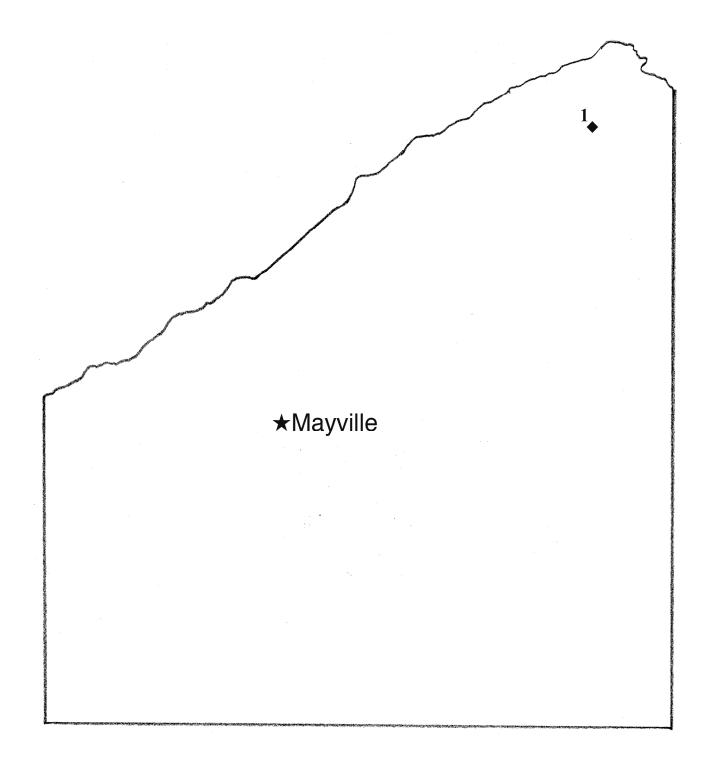
Localities without GPS coordinates (not shown on map)

Owasco Creek (S). *Minerals:* Calcite, Celestine, Epsomite, Fluorite. East bank of Owasco Creek, Town of Auburn. *References:* Dana, 1898; Whitlock, 1903

Thompson's Plaster Beds (S). *Minerals:* Gypsum (Selenite), Sulphur. Town of Springport. *References:* Dana, 1898; Whitlock, 1903

Union Springs (S). *Minerals:* Calcite, Dolomite, Gypsum (Selenite), Quartz. Town of Springport. *References:* Dana, 1898; Whitlock, 1903

Chautauqua County

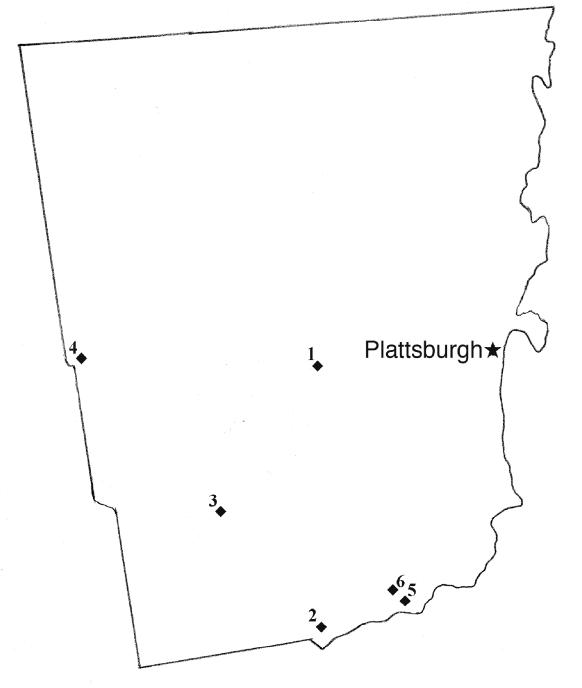


 Walnut Creek (S). *Minerals:* Barite. Town of Silver Creek. GPS: (42°28'15"N, 79°10'35") *Reference:* Unpublished



Barite. Walnut Creek. 5.5 cm. Town of Silver Creek. NYSM19034. SN photo.

Clinton County



- Averill Mine, Dannemora Mine, Fairbanks Mine, Ellis Mine (C). *Minerals:* Magnetite. Town of Dannemora. GPS: (44°43'N, 73°43'W) *References:* Smock, 1889; Whitlock, 1903; Newland, 1908
- Au Sable Forks Iron Mines (Palmer Hill Mines) (C). *Minerals:* Fluorapatite, Fluorite, Magnetite, Microcline (Sunstone), Quartz. 1¹/₂ miles north of Au Sable Forks. Town of Black Brook. GPS: (44°28'04"N, 73°40'17"W) *References:* Smock, 1889; Whitlock, 1903; Newland, 1919; Robinson & Chamberlain, 2007b
- Bowen & Signor Mine (C). *Minerals:* Magnetite. South of Redford. Town of Black Brook. GPS: (44°35'59"N, 73°48'00"W) *Reference:* Whitlock, 1903
- 4) Chateaugay Mine (C, F). *Minerals:* Augite, Biotite, Calcite, Fluorapatite, Fluoro-edenite, Gypsum, Hastingsite, Magnetite, Microcline, Stilbite, Titanite, Zircon. Lyon Mountain. Town of Standish. GPS: (44°43'02"N, 73°54'39"W) *References:* Smock, 1889; Robinson & Chamberlain, 2007b



Stilbite. 3-cm fov. Chateaugay Mine. SCC24273 and photo.

- Cook Hill Mines: Battie Mine, Mac Mine, Winter Mine (C). *Minerals:* Albite (oligoclase), Amphibole, Calcite, Hornblende, Magnetite. 1.5 miles east of Ferrona, Clintonville. Town of Chesterfield. GPS: (44°27'56"N, 73°34'58"W) *References:* Whitlock, 1903; Newland, 1919
- 6) Finch Ore Bed (a continuation of the Arnold Mine) (C). *Minerals:* Calcite, Fluorite. 2.5 miles north of Clintonville. Town of Ausable. GPS: (44°28'54"N, 73°37'22"W) *References:* French, 1860; Dana, 1898

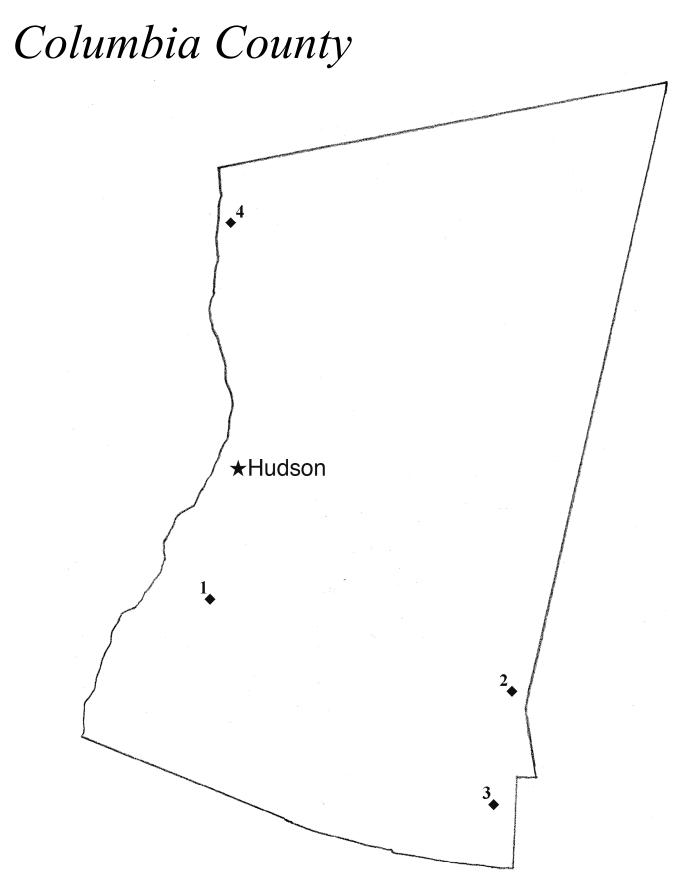
Localities without GPS coordinates (not shown on map)

Arnold Iron Mine (Arnold Hill Mines) (C). *Minerals:* Epidote, Feldspar, Fluorite, Magnetite, Molybdenite, Pyrite, Quartz (rose and jasper). Au Sable. Town of Au Sable. *References:* Smock, 1889; Dana, 1898; Whitlock, 1903

Lyon Mountain (C). *Minerals:* Albite (Plagioclase), Olivine, Pyroxene. Near Roger's Field. Town of Dannemora. *Reference:* Whitlock, 1903

Plattsburgh. *Minerals:* Platinum (nugget in drift). Town of Schuyler Falls. *Reference:* (Dana, 1898)

Tremblay's Mine (C). *Minerals:* Magnetite. 1.5 miles west of Clayburg. Town of Black Brook. *Reference:* Whitlock, 1903



- Burden Mines (Iron Mountain) (S). *Minerals:* Calcite, Dolomite, Epsomite, Goethite, Gypsum, Quartz, Siderite, Wad. Germantown. Town of Livingston. GPS: (42°09'39"N, 73°49'25"W) *References:* Smock, 1889; Dana, 1898; Whitlock, 1903
- Copake Mine, Weed Mine (C). *Minerals:* Goethite, Graphite, Siderite. Copake Falls, Salisbury District. Town of Copake. GPS: (42°07'19"N, 73°31'04"W) *References:* Dana, 1898; Whitlock, 1903
- Morgan Mine, Reynolds Mine (S). *Minerals:* Goethite, Siderite. 0.5 mile west of Halstead. Town of Ancram. GPS: (42°01'59"N, 73°33'16" W) *References:* Smock, 1889; Whitlock, 1903
- 4) Poolsburg Railroad Cut (F). *Minerals:* Quartz. East bank of Hudson River, between Schodack Landing and Poolsburg. Town of Stuyvesant. GPS: (42°24'22"N, 73°46'43"W) *Reference:* Unpublished



Quartz. 3.6 cm. Poolsburg. JB77973 and photo.

Localities without GPS coordinates (not shown on map)

Ancram Lead Mines (F). *Minerals:* Barite, Calcite, Chalcopyrite, Galena, Pyrite, Quartz, Sphalerite, Wulfenite. Ancramdale. Town of Ancram.

References: Robinson, 1825; Whitlock, 1903; Robinson & Chamberlain, 2007

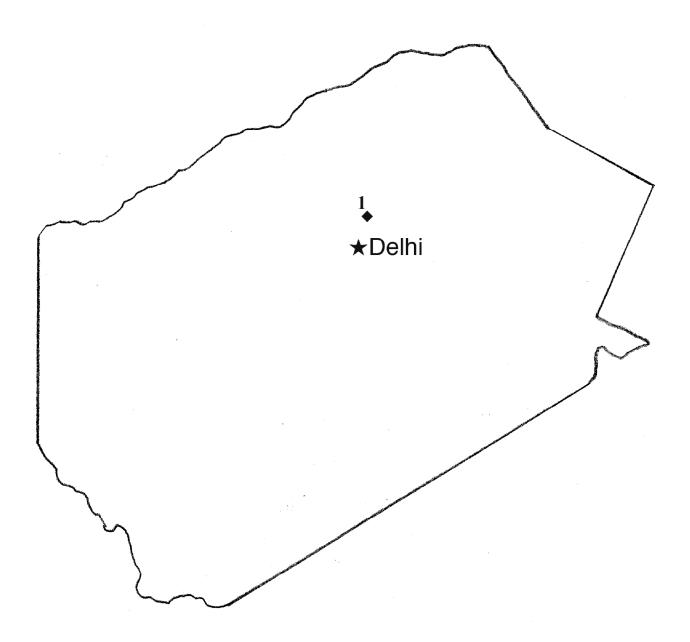
Cedar Hill Mine (S). *Minerals:* Siderite. Long Hill. Town of Greenport. *Reference:* Smock, 1889

Coxsackie Gypsum Locality (S). *Minerals:* Gypsum (in clay). South of Cary Brick Co., Coxsackie. Town of Stuyvesant. *Reference:* Whitlock, 1903

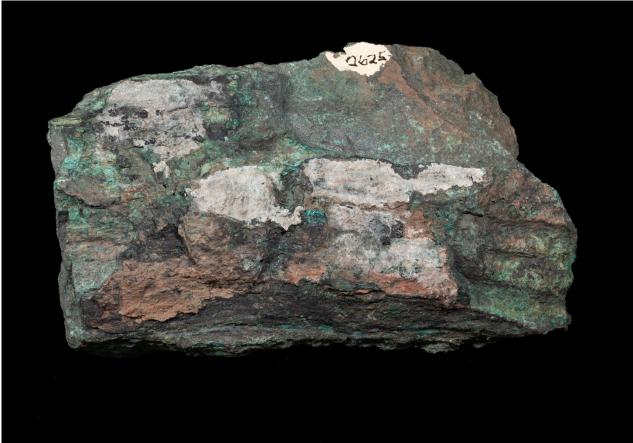
Livingston's Mine (S). *Minerals:* Quartz, Siderite. Town of Livingston. *Reference:* Smock, 1889

Plass Hill Mine (S). *Minerals:* Quartz, Pyrite, Siderite. Catskill Station. Town of Greenport. *Reference:* Smock, 1889

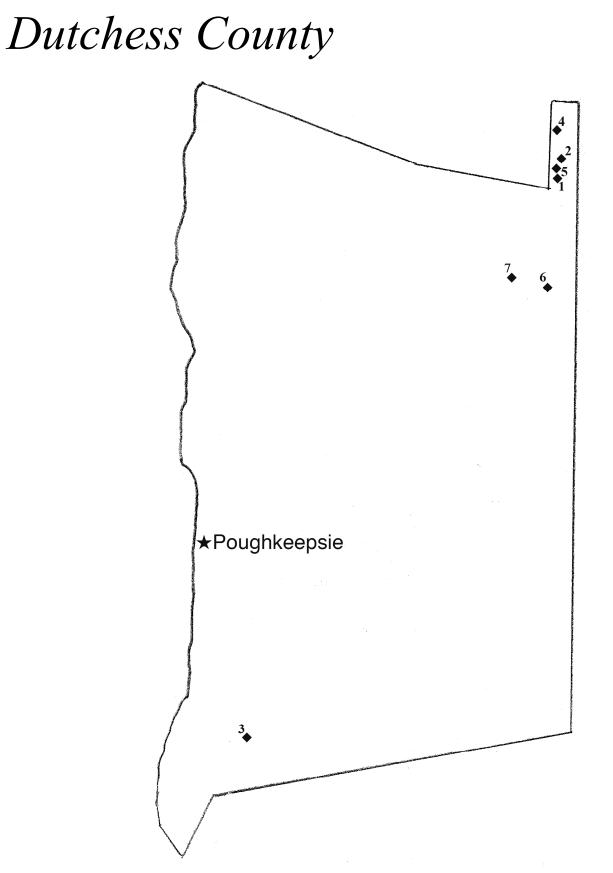
Delaware County



 Malachite Locality (S). Delhi Furnace. Town of Delhi. GPS (42°18'46"N, 74°51'51"W) *Reference:* Unpublished



Malachite, Calcite. Delhi. 10 cm. NYSM2625. SN photo.



- Cheever Mine (Mount Riga Mine) (S). *Minerals:* Goethite. Mount Riga. Town of North East. GPS: (41°59'25"N, 73°30'29"W) *Reference:* Hobbs, 1907
- Dakin Mine (S). *Minerals:* Goethite. North of Mount Riga, between Boston Corner & Mount Riga. Town of North East. GPS: (42°0'42"N, 73°30'29"W) *Reference:* Hobbs, 1907
- Delaware Aqueduct Shaft 7 (C). *Minerals:* Actinolite, Albite, Allanite, Almandine, Apatite, Aragonite, Augite, Axinite, Biotite, Calcite, Chlorite, Chrysotile, Diopside, Dolomite, Epidote, Fluorite, Graphite, Hornblende, Microcline, Molybdenite, Muscovite, Orthoclase, Phlogopite, Pyrite, Quartz, Rhodonite, Stilbite, Titanite, Tremolite (Mountain Leather). Delaware Aqueduct Shaft 7. Town of Fishkill.
 GPS: (41°31'27"N, 73°52'23"W) *Reference:* Robinson & Chamberlain, 2007b
- 4) Kelly Mine (Upper Kelly Mine) (S). *Minerals:* Goethite. Mount Riga. Town of North East. GPS: (42°1'42"N, 73°31'17"W) *Reference:* Hobbs, 1907
- Mt. Riga Mine (S). *Minerals:* Goethite. Foot of Mt. Riga ridge. Town of North East. GPS: (41°59'35"N, 73°30'39"W) *References:* Smock, 1889; Whitlock, 1903; Hobbs, 1907
- 6) NY Rte. 22 Road Cut (F, A). *Minerals:* Aurichalcite, Galena, Hemimorphite, Smithsonite, Sphalerite, Tennantite. Road Cut on State Rte. 22, Millerton. Town of North East GPS: (41°55'10"N, 73°32'19"W) *Reference:* Unpublished
- 7) Shekomeko Railroad Cut (F). *Minerals:* Azurite, Malachite, Tennantite. Railroad Cut, Shekomeko. Town of North East. GPS: (41°55'41"N, 73°35'56"W) *Reference:* Robinson & Chamberlain, 2007b



Azurite, Malachite, Tennantite. Shekomeko Railroad Cut. 6 cm. SCC14126 and photo.

Amenia Mines (Squabble Hole, Gridley, Amenia) (S). Minerals: Goethite, Siderite. Amenia. Town of Amenia. References: Smock, 1889; Robinson & Chamberlain, 2007b

Beekman Mine (S). Minerals: Goethite. Beekman. Town of Beekman. Reference: Smock, 1889

Calcite Locality, Pawling (F). Minerals: Calcite (twin). Rte. 55 Road Cut, near Pawling. Town of Pawling. Reference: Unpublished.



Clove Iron Mine (Clove Spring Iron Mine) (S). Minerals: Gibbsite, Goethite. Clove Valley. Town of Beekman. Reference: Smock, 1889; Dana, 1898

Deuel Hollow Mine (S). Minerals: Goethite. 2 miles southeast of South Dover. Town of Dover. Reference: Whitlock, 1903

Dover Mine (C, A). Minerals: Garnet, Goethite, Staurolite. Dover Furnace Station. Town of Dover. Reference: Whitlock, 1903

Fishkill Iron Mines (S). Minerals: Goethite. East Fishkill. Town of East Fishkill. Reference: Whitlock, 1903

Foss Ore Mine (C). Minerals: Dolomite, Garnet, Goethite, Kyanite, Quartz, Staurolite, Tremolite. Dover Plains. Town of Dover. References: Dana, 1898; Dana, 2011; Whitlock, 1903

Galena Locality (F). Minerals: Galena. Near Smithfield. Town of North East. Reference: Newland, 1919 30

Maltby Mine (F, A). *Minerals:* Chalcocite, Chalcopyrite, Galena, Goethite, Sphalerite. Millerton, Salisbury District. Town of North East.

References: Smock, 1889; Dana, 1898; Robinson & Chamberlain, 2007b

Manhattan Mine (Amenia Mine) (S). *Minerals:* Chalcopyrite, Goethite, Siderite, Turgite. Station Road, Amenia. Town of North East. *Reference:* Whitlock, 1903

Manhattan Mine (Sharon Mine) (S). *Minerals:* Goethite. Town of Amenia. [Amenia], NY. S *Reference:* Smock, 1889

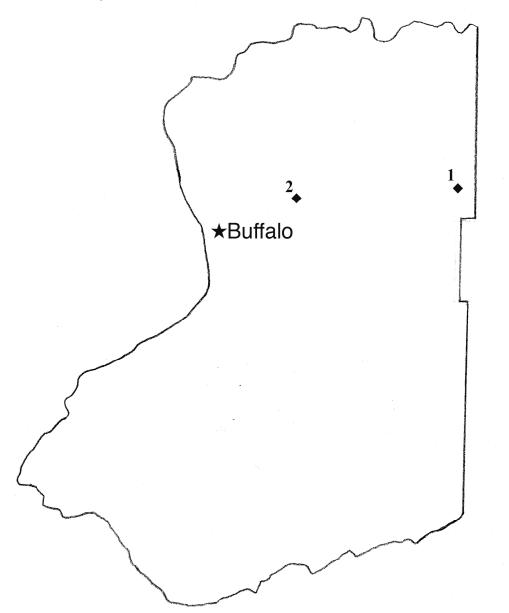
North Dutchess Rod & Gun Club (F). *Minerals:* Albite, Quartz. Rhinebeck. Town of Rhinebeck. *Reference:* Robinson & Chamberlain, 2007b

Sylvan Lake Mines (Horton, Fishkill, Sylvan Lake) (S). *Minerals:* Goethite. Fishkill Creek Valley, Beekman. Town of Beekman. *References:* Smock, 1889; Whitlock, 1903

Pawling Mine (S). *Minerals:* Goethite. Pawling. Town of Pawling. *References:* Smock, 1889; Whitlock, 1903; Newland, 1911

Pecksville Locality (C). *Minerals:* Amphibole, Graphite, Pyroxene, Talc. Pecksville. Town of East Fishkill. *Reference:* Whitlock, 1903

Erie County





Spring Creek Exposures, Alden. SR

 Spring Creek Exposures (S). *Minerals:* Pyrite (nodules and fossil replacements in shale). Alden. Town of Alden. GPS: (42°54'15"N, 78°29'11"W) *References:* Robinson & Chamberlain, 2007b; Chamberlain & Robinson, 2013



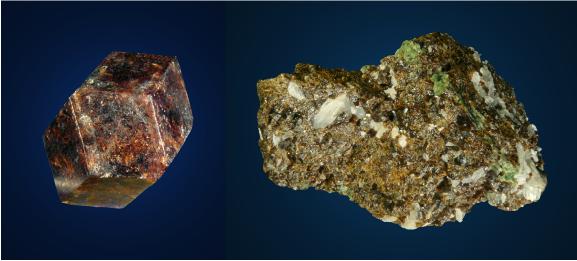
Spring Creek Exposures, Alden. (Upper left) Pyritized trilobite eye. 6-mm field of view. SCC photo. (Upper right) Pyritized ammonite. 6.7 cm. NYSM specimen. RB photo. (Lower left) Pyritized pelecypods. 7 cm. SCC34636 and photo. (Lower right) Elongate pyrite nodule. 11 cm. NYSM specimen. JS photo.

 Buffalo Stone Quarry (S). *Minerals:* Pyrite. Cheektowaga. Town of Cheektowaga. GPS: (42°53'50"N, 78°44'42"W) *References:* Unpublished

Essex County



 Cabot Corporation Mine (Lewis NYCO Mine) (C) *Minerals:* Diopside (Coccolite), Grossular-andradite (Colophonite), Wollastonite, Zircon. Willsboro. Town of Lewis. GPS: (44°18'07"N, 73°36'58"W) *References:* Whitlock, 1903; Robinson & Chamberlain, 2007b



(L) Andradite, Cabot Corporation Mine. 2.5 cm. SCC18815 and photo. (R) Grossular, Wollastonite, Diopside. Cabot Corporation Mine. 9.8 cm. SCC34930 and photo.

 Cascade Lakes and Cascade Slide (C). *Minerals:* Åkermanite, Diopside (Coccolite), Ferro-pargasite, Harkerite, Hedenbergite. Monticellite. Keene Valley. Town of Keene. GPS: (44°13'26"N, 73°52'18"W)

References: Valley & Essene, 1980; Robinson & Chamberlain, 2007b; Bailey et al., 2019



(L) Ferro-pargasite. Cascade Slide. 5.7 cm. SCC15118 and photo. R) Hedenbergite. Cascade Slide. 8.0 cm. SCC8163 and photo.

 Crehore Mine (C). *Minerals:* Ferro-hornblende, Garnet. 5 miles north of North Creek, Casey Mountain. Town of Minerva. GPS: (43°50'00"N, 74°08'00") *Reference:* Newland, 1919

- 4) Keene Valley Airport (C). *Minerals:* Hedenbergite, Meionite, Titanite, Zircon. Town of Keene. GPS: (44°13'19"N, 73°47'27"W) *Reference:* Robinson & Chamberlain, 2007b
- Kirby's Graphite Mine (C). *Minerals:* Graphite, Pyroxene, Scapolite, Titanite. Alexandria. Town of Westport. GPS: (44°10'23"N, 73°28'40"W) *Reference:* Dana, 1898
- Lieb's Moonstone Mine (C). *Minerals:* Diopside, Graphite, Orthoclase, Phlogopite, Quartz, Vesuvianite. Mt. Pisgah, Bloomingdale. Town of St. Armand. GPS: (44°22'55"N, 74°05'27"W) *References:* Jensen, 1978; Robinson & Chamberlain, 2007a,b; Jaszczak et al., 2009



Graphite, Goethite. Leib's Moonstone Mine. 8 cm. NYSM 21228. SCC and MVL photo.

7) Long Pond Iron Mine (C). *Minerals:* Calcite (blue), Carbonate Fluorapatite (Eupychroite), Chalcopyrite, Chlorite, Diopside (Coccolite), Dravite, Epidote, Garnet, Magnetite, Pyroxene, Quartz, Scapolite, Vesuvianite. 13 miles west of Crown Point village, Hammondville (now abandoned). Town of Crown Point.

GPS: (43°56'18"N, 73°25'32"W)

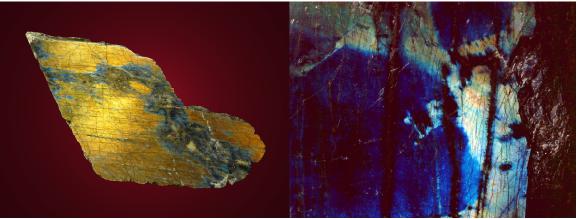
References: Dana, 1898; Haber, C., (Essex County Historian), 2020; Whitlock, 1903; Newland, 1919; Robinson & Chamberlain, 2007b



Carbonate Fluorapatite (Eupychroite). Crown Point. 4.1 cm. SCC4022 and photo.

 McIntyre Iron Works (N. L. Industries Mine) (C). *Minerals:* Anorthite (Labradorite), Calcite, Garnet, Ilmenite, Magnetite, Prehnite, Stilbite. Tahawus. Town of Newcomb. GPS: (44°03'14"N, 74°03'29")
 Pachamagan Dang, Jacking and Schemberlein, 2007h

References: Dana, 1898; Robinson & Chamberlain, 2007b



(L) Anorthite (Labradorite). McIntyre Iron Works (Tahawus). 8.3 cm. SCC8579 and photo. (R) Anorthite (Labradorite) McIntyre Iron Works (Tahawus). 5-cm fov. CMN. GWR photo.

- Mine 21 (C). *Minerals:* Apatite, Fluorite, Magnetite, Quartz, Zircon. Mineville. Town of Moriah. GPS: (44°05'30"N, 73°31'00"W) *References:* Whitlock, 1903
- 10)Minerva Lake Wollastonite Skarn (C). *Minerals:* Augite, Fluorapatite, Graphite, Meionite, Vesuvianite, Wollastonite. Minerva Lake. Town of Minerva.
 GPS: (43°47'20"N, 73°58'24"W) *Reference:* Robinson & Chamberlain, 2007a,b



Graphite, Calcite. Minerva Lake. CMN. 3.5 cm. GWR photo. (R) Fluorapatite, Calcite. Minerva Lake. CMN. 7 cm. GWR photo.

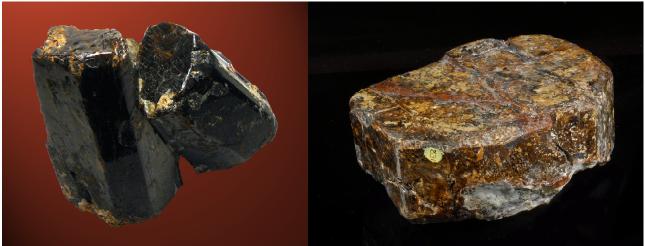
 Palmer Hill Mines (C). *Minerals:* Magnetite, Orthoclase. 1.5 mile north of Ausable Forks. Town of Black Brook. GPS: (44°27'57"N, 73°40'29"W) *References:* Whitlock, 1903; Newland, 1919 12)Pease Quarry (C). *Minerals:* Albite (Oligoclase), Amphibole, Graphite, Magnetite, Orthoclase, Pyrite, Pyroxene (white, pink, black xls), Pyrrhotite, Titanite, Tourmaline, Wollastonite. Port Henry. Town of Moriah.
GPS: (44°2'59"N, 73°27'29"W) *References:* Whitlock, 1903; Kemp & Rudemann, 1910

13)Roe's Spar Bed (Spar Bed Hill Quarry) (C). *Minerals:* Albite, Allanite-(Ce), Fergusonite-(Y), Fourmarierite, Kasolite (ps. after Uraninite), Lanthanite, Microcline, Monazite-(Ce), Polycrase-(Y), Pyrrhotite, Schorl, Sklodowskite, Thorite, Uraninite, Uranophane, Uranophane-B, Zircon. About 4 miles northwest of Crown Point Center. Town of Crown Point. GPS: (43°58'55"N, 73°32'24"W) *References:* Whitlock, 1903; Newland, 1919; Robinson & Chamberlain, 2007b

14)Rossmanite Occurrence (C). *Minerals:* Albite, Fluorapatite, Muscovite, Rossmanite, Scapolite, Titanite, Uvite-Dravite, Zircon. South shore of Harris Lake, 1 mile east of the post office in Newcomb. Town of Newcomb. GPS: (43°58'27"N, 74°08'30"W) *References:* Nason, 1888; Whitlock, 1903; Robinson and Chamberlain, 2007b

15)Rte. 28N Road Cut (C). *Minerals:* Diopside, Edenite, Fluorapatite, Phlogopite, Pyrite, Rutile, Titanite, Uvite-Dravite. Newcomb. Town of Newcomb.
GPS: (43°58'19"N, 74°10'52"W) *References:* Robinson & Chamberlain, 2007a,b; Jaszczak et al., 2009

- 16)Split Rock Iron Mine (C). *Minerals:* Apatite, Calcite, Olivine, Garnet, Ilmenite, Magnetite, Microcline, Plagioclase, Pyroxene, Pyrrhotite, Spinel. Shore of Lake Champlain.
 GPS: (44°14'08"N, 73°21'31"W) *Reference:* Newland, 1908
- 17)Vesuvianite Occurrence (C). *Minerals:* Calcite, Diopside, Fluorapatite, Graphite, Meionite, Microcline, Titanite, Vesuvianite. Small pit near Trout Brook, west of Olmstedville. Town of Minerva. GPS: (43°46'31"N, 73°56'34"W) *References:* Robinson & Chamberlain, 2007a,b; Jaszczak et al., 2009



(L) Vesuvianite. Olmstedville. 7 cm. SCC11744 and photo.

(R) Vesuvianite. Olmstedville. 17.5 cm. NYSM831. GBG photo.

18)Willsboro Mine (Fox Hill Quarry) (C). *Minerals:* Albite, Andradite, Calcite, Clinopyroxene, Diopside, Grossular, Montmorillonite, Quartz, Stevensite, Talc, Titanite, Wollastonite. Willsboro. Town of Lewis.
 GPS: (44°20'55"N, 73°26'05"W)
 References: Broughton & Burnham, 1944; DeRudder & Beck, 1962

19)Witherbee Mine (Cheever Mine, Tunnel Shaft, Weldon Shaft). (C). *Minerals:* Albite, Magnetite, Pyroxene, Pyrrhotite, Quartz, Titanite. 2 miles north of Port Henry. Town of Moriah.

GPS: (44°04'59"N, 73°26'59"W)

References: Smock, 1889; Whitlock, 1903; Newland, 1919



Titanite, Quartz. Witherbee Mine. 4.6 cm. SCC23457 and photo.

Localities without GPS coordinates (not on map)

Adirondack Mines (C). *Minerals:* Enstatite, Magnetite. Lake Sanford, Newcomb. Town of Newcomb. *References:* Smock, 1889; Whitlock, 1903

Bastnäsite Occurrence (C). *Minerals:* Bastnäsite, Quartz. Trout Lake Valley, near Ticonderoga. Town of Ticonderoga. *Reference:* Doll, 1983

Chilson Lake (Paragon Lake) (C). *Minerals:* Apatite, Calcite, Garnet, Magnetite, "Pyroxene", Scapolite, Vesuvianite. Town of Ticonderoga. *Reference:* Whitlock, 1903

Crown Point Mines (C). *Minerals:* Diopside, Feldspar, Magnetite, Quartz. Hammondville (now abandoned). Town of Crown Point. *Reference:* Smock, 1889

Eisenglass Mountain (C). *Minerals:* Phlogopite, Uvite. Town of Keene. *Reference:* Robinson & Chamberlain, 2007b

Elizabethtown Mines (Burt Hill, Noble, Gates) (C). *Minerals:* Magnetite. Town of Elizabethtown. *Reference:* Smock, 1889

Fayalite Locality (C). *Minerals:* Fayalite. Old iron mine near Port Henry. Town of Moriah. *Reference:* Unpublished



Fayalite (upper part). Old Iron Mine near Port Henry. 4 cm. SCC8038 and photo.

Garnet Locality (C). *Minerals:* Garnet. Unnamed garnet deposit a few miles south of Keeseville. Town of Chesterfield. *Reference:* Newland, 1919

Gates Mine (Putnam Mine) (C). *Minerals:* Magnetite (titaniferous). 1 mile southeast of New Russia. Town of Elizabethtown. *References:* Whitlock, 1903; Robinson & Chamberlain, 2007b

Goodenow Flow (C). *Minerals:* Pyroxene, Uvite-Dravite. Newcomb. Town of Newcomb. *Reference:* Robinson & Chamberlain, 2007b

Graphite Occurrence (C). *Minerals:* Graphite, Quartz (rose). Port Henry. Town of Moriah. *Reference:* Robinson & Chamberlain, 2007b

Hall Ore Bed (Hall's Mine) (C). *Minerals:* Magnetite, Quartz, Zircon. Mineville. Town of Moriah. *Reference:* Whitlock, 1903

Iron Mines near Mineville (C). *Minerals:* Allanite, Fluorapatite, Magnetite, Stillwellite-(Ce), Zircon. Town of Moriah. *References:* Robinson & Chamberlain, 2007b; Bailey et al., 2019

I-87 Road Cut (C). *Minerals:* Fluorapatite, Pyrrhotite. New Russia. Town of Elizabethtown. *Reference:* Robinson & Chamberlain, 2007b



Fluorapatite, Pyrrhotite. I-87 Road Cut, New Russia. 6.8 cm. SCC8556 and photo

Keene Mine (C). *Minerals:* Calcite, Epidote, Magnetite. 1 mile southwest of Keene. Town of Keene. *References:* Smock, 1889

Lead Hill Mine (Chilson Hill Mine) (C). *Minerals:* Augite, Biotite, Calcite, Fluorapatite, Goethite, Graphite, Meionite, Pyrite, Pyroxene, Pyrrhotite, Titanite, Vesuvianite. Ticonderoga. Town of Ticonderoga. *References:* Robinson & Chamberlain, 2007b; Jaszczak et al., 2009



(L) Graphite. Lead Hill Mine. 3 cm. GWR-1 and photo. (R) Graphite. Lead Hill Mine. 2-cm xl. SCC37929 and photo.

Lewis Corners (C). *Minerals:* Albite (Labradorite), Amphibole, Arsenopyrite, Wollastonite. Town of Lewis. *Reference:* Whitlock, 1903

Millbrook (C). *Minerals:* Calcite, Graphite, Pyroxene, Quartz. 2 miles northwest of Port Henry. Town of Moriah.. *Reference:* Whitlock, 1903

Minerva Railroad Cut (C). *Minerals:* Amphibole, Calcite (blue), Diopside, Feldspar, Fluorapatite, Graphite, Phlogopite, Pyrite, Pyrrhotite. Town of Minerva. *Reference:* Jaszczak et al., 2009

Mineville Mines (Mine 21, Bonanza Shaft, Little Joker Shaft; Mine 23, Old Bed, Miller Pit, New Bed; Barton Hill; Fisher Hill, O'Neil Shaft, Cook Shaft, Thompson Shaft) (C). *Minerals:* Apatite, Magnetite. Town of Moriah. *References:* Beck, 1842; Emmons, 1842; Smock, 1889

Mount Defiance (C). *Minerals:* Cacoxenite, Magnetite, Pyroxene. Town of Ticonderoga. *Reference:* Whitlock, 1903

Mount Marcy (C). *Minerals:* Pyroxene. Town of Keene. *Reference:* Whitlock, 1903

National Lead Industries Mine (C, F). *Minerals:* Anorthite (Labradorite), Ilmenite, Magnetite, Prehnite. Tawahus. Town of Newcomb. *Reference:* Robinson & Chamberlain, 2007a,b



Prehnite. National Lead Industries Mine. 5.8 cm. SCC19378 and photo.

Paradox Lake Mines (C). *Minerals:* Calcite, Chondrodite, Magnetite, Pyroxene, Scapolite, Tourmaline. Town of Schroon. *Reference:* Whitlock, 1903

Rte. 28N Road Cut (C). *Minerals:* Calcite, Graphite. West of Minerva. Town of Minerva. *References:* Robinson & Chamberlain, 2007b; Jaszczak et al., 2009

Sanford Ore Bed (C). *Minerals:* Allanite, Amphibole, Apatite, Lanthanite, Magnetite. 6 miles west of Port Henry. Town of Moriah. *Reference:* Whitlock, 1903

Skiff Mine (C). *Minerals:* Magnetite. 2 miles south of Hammondville (now abandoned). Town of Crown Point. *Reference:* Whitlock, 1903

Splitrock Mine (C). *Minerals:* Albite (Labradorite), Graphite, Magnetite, Prehnite. 5 miles northeast of Westport. Town of Westport.

References: Smock, 1889; Whitlock, 1903

Treadway Quarry (C). *Minerals:* Diopside, Graphite, Fluorapatite, Meionite, Phlogopite, Rutile, Serpentine, Titanite, Uvite. Treadway Quarry, Port Henry. Town of Moriah.

References: Whitlock, 1903; Robinson & Chamberlain, 2007b; Jaszczak et al., 2009

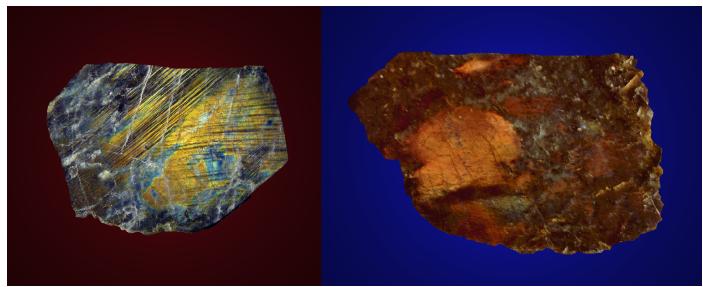


Graphite, Quartz. Treadway Quarry. 3-mm xl. JJ photo.

Vineyard Mine (C). *Minerals:* Magnetite. 4 miles northwest of Ticonderoga. Town of Ticonderoga. *Reference:* Smock, 1889

Weston Mine (C). *Minerals:* Magnetite. 1 mile southwest of Keene. Town of Keene *Reference:* Whitlock, 1903

Westport (C). *Minerals:* Anorthite (Labradorite). Town of Westport. *References:* Unpublished

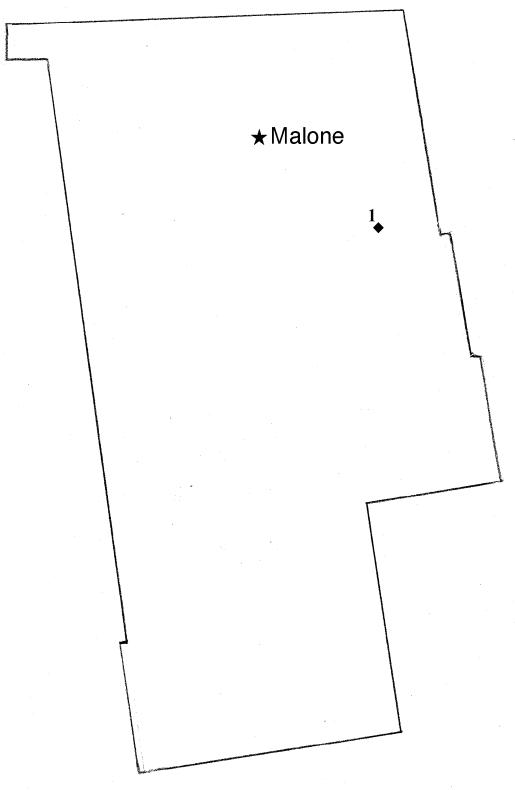


(L) Anorthite (Labradorite) Westport. 4 cm. SCC8576 and photo.(R) Anorthite (Labradorite) Westport. 6 cm. NYSM specimen; SCC photo.

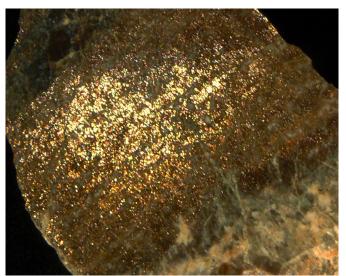


Tahawus, Essex Co. SR

Franklin County



 Owl's Head Prospect (C). *Minerals:* Albite (Oligoclase – Sunstone), Garnet, Fluorapatite, Fluorite, Diopside, Hornblende, Zircon (Cyrtolite). Owl's Head Mountain, near Malone. Town of Malone. GPS: (44°44'06"N, 74°09'06"W) *References:* Robinson & Alverson, 1971; Robinson & Chamberlain, 2007a,b



Oligoclase (Sunstone). Owl's Head Prospect. 2.0-cm. fov. SCC8443 and photo.

Localities without GPS coordinates (not shown on map)

Indian Pass (C). *Minerals:* Anorthite (Labradorite). Saranac Lake. Town of Harrietstown. *References:* Robinson & Chamberlain, 2007a,b

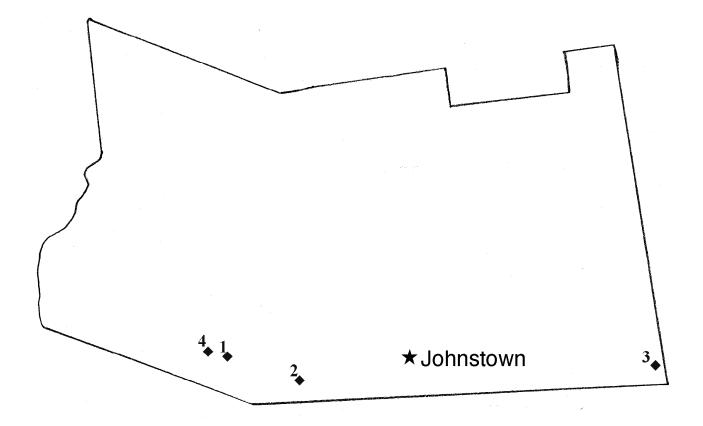
Mine 81 (C). *Minerals:* Magnetite. Belmont. Town of Standish. *Reference:* Smock, 1889

Panther Pond (C). *Minerals:* Labradorite. Wawbeek. Town of Harrietstown. *Reference:* Robinson & Chamberlain, 2007a



(L) Anorthite (Labradorite). Indian Pass. 5 cm. SCC14800 and photo. (R) Labradorite. Panther Pond. 9.5 cm. NYSM specimen. SCC photo.

Fulton County



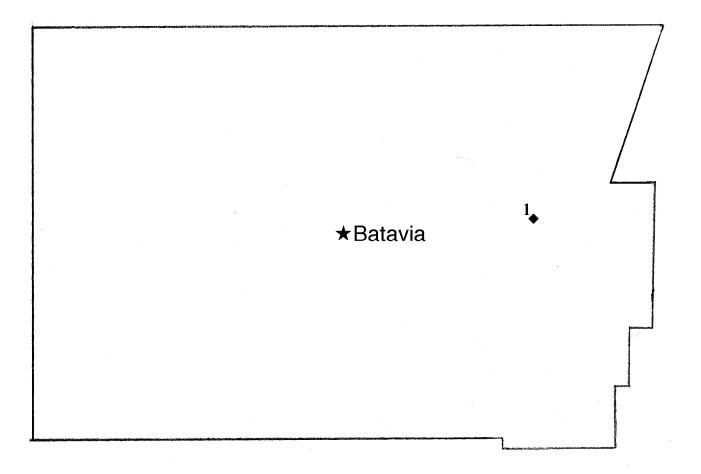
 Crystal Grove (S). *Minerals:* Anthraxolite, Calcite, Dolomite, Quartz. Lassellsville. Town of Oppenheim. GPS: (43°03'10"N, 74°38'00"W) *References:* (Robinson & Chamberlain, 2007b; Walter, 2014)



(L) Quartz. Crystal Grove. 4 cm. CMN. GWR photo.(R) Quartz. Crystal Grove. 5.8 cm. SCC6285 and photo.

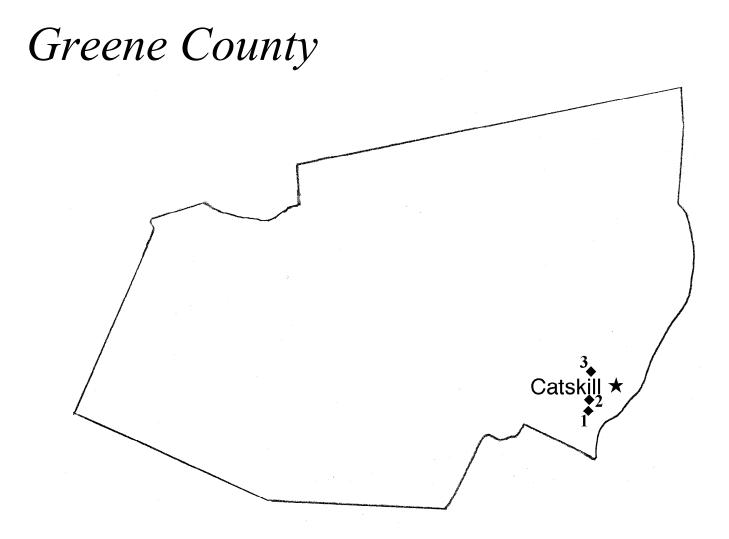
- Grey Road Locality (S). *Minerals:* Anthraxolite, Quartz. Ephratah. Town of Ephratah. GPS: (42°59'20"N, 74°29'43"W) *Reference:* Unpublished
- Werner No. 4 Pit (C). *Minerals:* Chernikovite, Microcline, Muscovite, Orthoclase, Phlogopite, Quartz. Mayfield. GPS: (43°N, 74°W) *Reference:* Lupulescu et al., 2014
- 4) Soul Phamily Farm (S). *Minerals:* Anthraxolite, Quartz. Town of Oppenheim. GPS: (43°01'55"N, 74°39'38"W) *Reference:* Unpublished

Genesee County

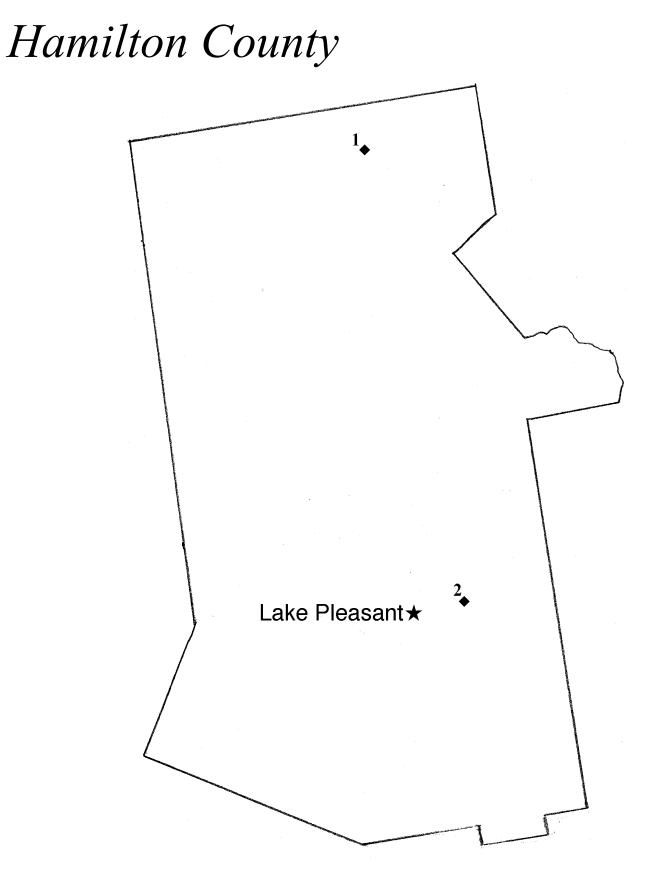


Localities with GPS coordinates (shown on map)

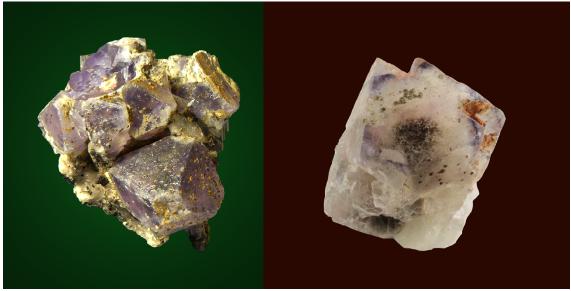
 South Byron Meteorite, Nickel-rich Ataxite (E) found 1915. *Minerals:* Chromite, Iron (Kamacite), Plessite, Schreibersite. Town of Byron. GPS: (43°02'N, 78°02'W) *Reference:* Robinson & Chamberlain, 2007b



- Austin's Glen (S). *Minerals:* Calcite, Quartz. 2 miles northwest of Catskill, near Catskill Creek. Town of Catskill. GPS: (42°14'35"N, 73°53'04"W) *Reference:* Whitlock, 1903.
- Diamond Hill (S). *Minerals:* Quartz. Catskill. Town of Catskill. GPS: (42°12'46"N, 73°52'01"W) *References:* Beck, 1842; Whitlock, 1903
- Flint Mine Hill (S). *Minerals:* Quartz (Flint). Coxsackie. Town of Coxsackie. GPS: (42°19'44"N, 73°49'56"W) *References:* Beck, 1842; Dana, 1898; Robinson & Chamberlain, 2007b



 Long Lake Road Cut (F). *Minerals:* Calcite, Chamosite, Epidote, Fluorite, Hematite, Kainosite-(Y), Pyrite, Quartz, Titanite. Road Cut on NYS Rte. 30, 11.4 km north of Long Lake. Town of Long Lake. GPS: (44°02'42"N, 74°31'16"W) *References:* Richards & Robinson, 2000; Robinson & Chamberlain, 2007b



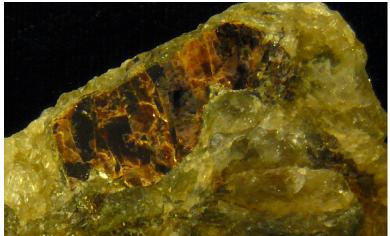
(L) Fluorite. Long Lake Road Cut. 4.1 cm. SCC14898 and photo.
 (R) Fluorite, Epidote. Long Lake Road Cut. 1.8 cm. JB13293 and photo.

 2) Speculator Road Cut (C). *Minerals:* Calcite, Corundum, Graphite, Muscovite (Wilsonite), Pyrrhotite, Rutile, Spinel, Wollastonite. Road Cut on NYS Rte. 30, Speculator. Town of Lake Pleasant. GPS: (43°30'34"N, 74°19'04"W)
 B. Construction of Chemberlein, 2007th

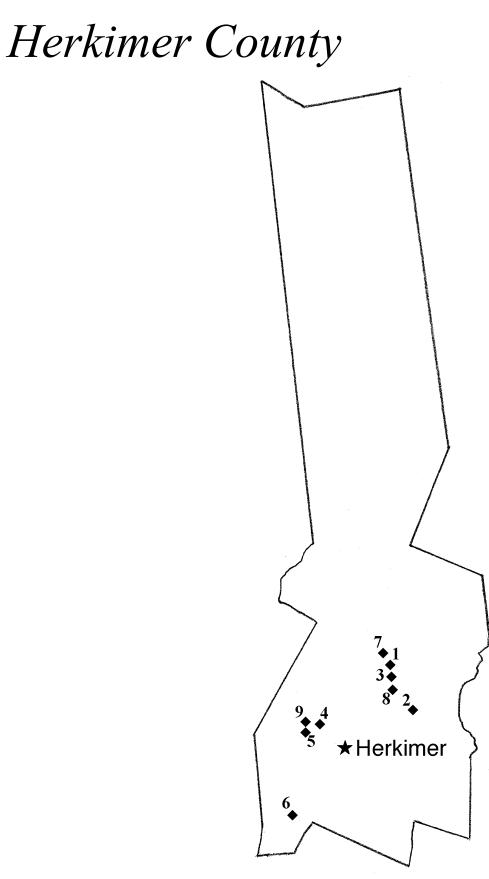
Reference: Robinson & Chamberlain, 2007b

Localities without GPS coordinates (not shown on map)

Indian Lake Road Cut (C). *Minerals:* Anorthite (Labradorite), Phlogopite. Town of Indian Lake. *References:* Robinson & Chamberlain, 2007a



Phlogopite. Indian Lake Road Cut. 3.3-cm fov. SCC8571 and photo



 Ace of Diamonds (S). *Minerals:* Anthraxolite, Calcite, Dolomite, Quartz. Middleville. Town of Newport. GPS: (43°07'57"N, 74°58'28"W) *References:* Chamberlain, 1988; Robinson & Chamberlain, 2007b; Walter, 2014



(Left) Quartz. Ace of Diamonds. 11.5 cm. SCC specimen and photo. (Upper Right) Quartz. Ace of Diamonds. 3.5 cm. SCC32477 and photo. (Lower Right) Quartz. Ace of Diamonds. 8.3 cm. SCC15831 and photo.



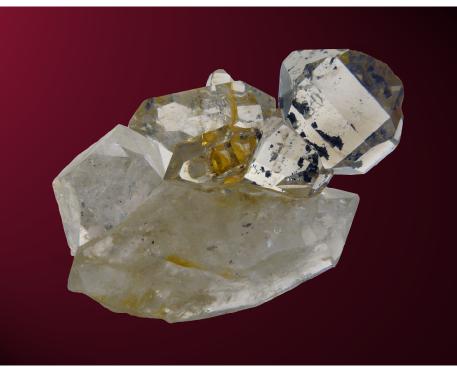
Middleville. SR

 Diamond Mountain (S). *Minerals:* Anthraxolite, Quartz (black-stemmed scepters, dark smoky skeletals). Town of Manheim. GPS: (43°02'27"N, 74°49'24"W) *Reference:* Unpublished



Quartz. Diamond Mountain. 13 cm. CD specimen and photo.

 Herkimer Diamond Mines Resort (S). *Minerals:* Anthraxolite, Calcite, Dolomite, Quartz. Middleville, Town of Newport. GPS: (43°07'47"N, 74°58'37"W) *References:* Robinson & Chamberlain, 2007b; Walter, 2014



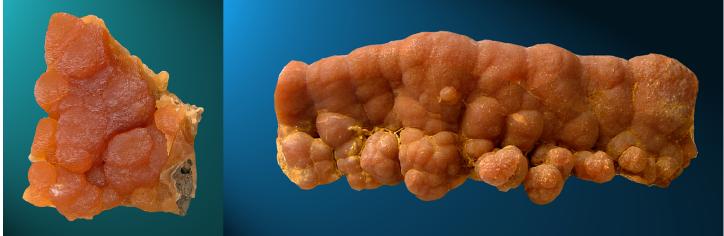
Quartz. Herkimer Diamond Mines Resort. 9.5 cm. SCC specimen and photo.

 4) Ilion Gorge (S, F). *Minerals:* Calcite (Travertine). Ilion. Town of German Flatts. GPS: (42°59'15"N, 75°03'06"W) *Reference:* Robinson & Chamberlain, 2007b



(L) Calcite. Ilion Gorge. 9.2 cm. NYSM specimen. GBG photo.
 (R) Calcite (Travertine). Ilion Gorge. 13.5 cm. SCC26348 and photo.

 Jerusalem Hill Road (S). *Minerals:* Calcite (Travertine), Goethite. Beckus Gulf, Cedarville. Town of Litchfield. GPS: (42°57'48"N, 75°06'42"W) *Reference:* Chamberlain & Robinson, 2013



(L) Calcite. Jerusalem Hill Road. 9.2 cm. MW specimen and photo. (R) Calcite. Jerusalem Hill Road. 15.8 cm. SCC15481. MW photo.

- Living Mountain (S) *Minerals:* Anthraxolite, Calcite, Dolomite, Quartz. Jerusalem Hill Road, Town of Litchfield. GPS: (42°57'48"N, 75°06'44"W) *Reference:* Unpublished
- Middleville Quarry (S). *Minerals:* Anthraxolite, Calcite, Dolomite, Quartz, Sphalerite. North of Middleville, Town of Fairfield. GPS: (43°09'14"N, 74°58'42"W) *References:* Robinson & Chamberlain, 2007b; Walter, 2014



(L) Quartz, Calcite. Middleville Quarry. 2.9 cm. NYSM specimen. MW photo. (R) Calcite, Dolomite. Middleville Quarry. 10.4 cm. SCC5129 and photo.

- Salisbury Corners (S). *Minerals:* Chalcopyrite, Galena, Pyrite, Quartz. Rte. 29 at Military Road. Town of Salisbury. GPS: (43°8' N, 74°48'W) *Reference:* Dana, 1898
- 9) Treasure Mountain (S). *Minerals:* Anthraxolite, Calcite, Dolomite, Pyrite, Quartz (black-stemmed scepters). Little Falls. Town of Danube & Little Falls. GPS (42°57'49"N, 75°06'45"W)

References: Chamberlain & Hladysz, 1997; Borofsky et al., 2000; Robinson & Chamberlain, 2007b; Chamberlain, 2014c, 2015a



(L) Quartz. Treasure Mountain. 5 cm. SCC specimen and photo,.
(C) Quartz. Treasure Mountain. 3.2 cm. SCC specimen and photo.
(R) Quartz. Treasure Mountain. 10 cm. SCC31551 and photo.



Quartz. Treasure Mountain. 9 cm. SCC15271 and photo.



Treasure Mountain. SR

Barite Locality (S). *Minerals:* Barite, Quartz. Town of Fairfield. *References:* Dana, 1898; Whitlock, 1903

Celestine Locality (S). *Minerals:* Celestine (fibrous), Gypsum. Starkville. Town of Stark. *References:* Dana, 1898; Newland, 1919; Whitlock, 1903