

Wild Women:
The Botanical Artists of Late Nineteenth- and Early Twentieth-century
Wildflower Field Guides in North America

by

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Botanical illustration has its roots in the necessity of creating accurate renditions of plants for the purpose of identifying flora to be used in herbal medicines. Although these herbals benefited the populace, they were owned by a small subset of the population—the healers.^{1 2} Botanical art was created for a more popular audience started around the beginning of the sixteenth century, when artists began to depict plants in a naturalistic manner to be included in books of hours.³ Although these images had greater circulation, the high cost of manual production of these sorts of books would have limited the owners to the wealthy.⁴ During the following centuries, artists who were part of scientific explorations created botanical illustrations for academic and scientific communities.⁵ By the nineteenth century, botany and botanical illustration were considered appropriately feminine scientific hobbies.^{6 7}

In the late nineteenth and early twentieth centuries, out of the genteel recreation of flower painting within the domestic sphere, emerged a group of women in North America who pursued formal art education in order to create botanical art in a more professional manner. Trained as artists, these women were also amateur botanists and explorers out of necessity; in order to succeed as botanical artists, they learned plant identification and Linnaean classification and explored the nooks and crannies of their country in pursuit of wildflowers for their subjects. In

1. Tomasi, “European Medieval and Renaissance Herbals,” 37.

2. Rix, “The Origins of Botanical Art,” 10-11.

3. Kernan, <https://www.asba-art.org/about-botanical-art/history>.

4. Chappell, *A Short History*, 79.

5. Buck, <https://www.asba-art.org/article/history-botanical-art-part-9-exploration>.

6. Kramer, *Women of flowers*, 21.

7. Shteir, *Cultivating women, cultivating science*, 35.

this particular moment in time, there was a significant amount of public engagement in discovering and naming local flora, which opened a market for wildflower field guides.⁸ This public interest simultaneously led to the emergence of the wildflower conservation movement, which further popularized the botanical illustrations in these field guides.⁹ Within this climate, female artists found an avenue for the wide dissemination of their work, which had not existed before.¹⁰

Between 1887 and 1916, thirteen wildflower field guides written and illustrated by women were published in North America.¹¹ The artists who published their work in these books were Emma Homan Thayer (Fig. 1 to 4), Elsie Louise Shaw (Fig. 5, 6), Marion Satterlee (Fig. 7), Margaret Christine Whiting (Fig. 8), Ellen Miller (Fig. 9), Margaret Warriner Buck (Fig. 10, 11), Marian Ellis Rowan (Fig. 12-19), Julia Wilmotte Henshaw (Fig. 20-24), Margaret Armstrong (Fig. 25-27), Emma Graham Clock (Fig. 28, 29), Mary Keffer and Eloise Payne Luquer (Fig.

8. Kramer, *Women of flowers*, 28.

9. The early wildflower conservation movement is documented in publications such as Knight, Elizabeth G. *How the wild flowers are protected*. Washington, D.C.: Plant world company, 1902, and Messenger, Ruth E. *The preservation of our native plants*. Baltimore: Plant World Association, 1903.

10. Kaufman, "Women Forerunners," 66-69.

11. (1) Thayer, *Wild flowers of the Pacific coast*, 1887. (2) Thayer, *Wild flowers of the Rocky Mountains*, 1887. (3) Parsons, *How to know the wild flowers*, 1893. (4) Miller and Whiting, *Wild flowers of the north-eastern states*, 1895. (5) Parsons, *The wild flowers of California*, 1897. (6) Lounsberry, *A guide to the wild flowers*, 1899. (7) Lounsberry, *Southern wild flowers and trees*, 1901. (8) Henshaw, *Mountain wild flowers of America*, 1906. (9) Henshaw, *Wild flowers of the North American mountains*, 1915. (10) Armstrong, *Field book of western wild flowers*, 1915. (11) Clock, *Wild flowers from the mountains cañons and valleys of California*, 1915. (12) Keeler, *Our early wild flowers*, 1916. (13) Clements, *Flowers of mountain and plain*, 1916.

30-32), and Edith Schwartz Clements (Fig. 33, 34). Popular field guides, in all areas of nature study, emerged in the late nineteenth century as a product of the increasing mechanization of book production, which resulted in more affordable volumes, combined with the popular interest in studying the natural world, which required manuals for identification.¹² Field guides are distinguished from traditional Floras and monographs, which are more technical and more appropriate for use by scientists; they also differentiate from florilegia, in which there is minimal or nonexistent text, focusing instead on the beauty of the plants. A field guide, on the other hand, is “a book . . . that informs about plants in the field by facilitating identification of, and usually supplying subsidiary information about, a particular group of plants. “In the field” means in life, e.g. living plants in the forest or in the park.”¹³ Field guides can range from the larger, more comprehensive, and less portable ‘pragmatic floras’ to inexpensive, popular, and portable books; this full range is present in the works discussed here. The artists of this group of guides were aware of each other’s works; they often reference the other titles within prefaces as recommended supplemental material.

Botanical exploration of North America has been categorized into three phases: first by European explorers and collectors, which stopped by about 1850; then sponsored by government or private institutions, which occurred during much of the nineteenth century; and finally by resident botanists, which started around 1850 and continued into the twentieth century.¹⁴ The hundreds of scientists and illustrators who were hired for the numerous government-funded

12. Chappell, *A Short History*, 191-225.

13. “The Virtual Field Herbarium,” *University of Oxford*, <http://herbaria.plants.ox.ac.uk/vfh/>.

14. Thomas, “Botanical explorations,” 5.

botanical exploration, beginning in 1838, were male.¹⁵ The female illustrators were not yet recognized by the government, so they sought professional exposure through popular publications.

By the 1870s and 1880s, upper- and middle-class women had increasing access to art education, but they were still categorized by their sex within the schools and the art world. As they were often excluded from men's professional societies, they developed their own spaces in the larger world.¹⁶ With inventions to reduce time-intensive domestic tasks and ever-shifting attitudes about the appropriateness of females outside of the domestic sphere, women were gaining the ability to pursue professional work.^{17 18}

In these days of increasing numbers of women with formal art training, botanical illustration was considered one of the more appropriate avenues for artistic expression. This notion grew directly out of a history of botany as an appropriate science for women.¹⁹ According to eighteenth-century gender ideologies, "botany accorded with conventional ideas about women's nature and "natural" roles."²⁰ It was correlated with feminine elegance and delicacy, and because it required delicate work to keep plants thriving, it was better performed "by the pliant fingers of women, than by the clumsy paws of men."²¹ Botanical pursuits, including

15. Ibid, 12-18.

16. Prieto, "Sculpting Butter," 108-109.

17. Cortado, "Toward a New Century," 125-126.

18. Shteir, *Cultivating women*, 235-236.

19. Kramer, *Women of Flowers*, 21.

20. Shteir, *Cultivating women*, 35.

21. Ibid., 35.

“collecting plants, creating herbaria, learning some botanical Latin, reading handbooks about Linnaean systematics, taking lessons in botanical illustration, using microscopes to study plant physiology and writing introductory botany books” became part of the proscriptive realm of fashionable leisure for women.²²

It appears that even before the era of the first wildflower field guides, female botanical illustrators were aiming for more accessibility than their male counterparts. Early in the eighteenth century Elizabeth Blackwell produced *A Curious Herbal* (1737-39), for which she drew, engraved, and hand colored 500 illustrations. Unlike other herbals of the time, all of the information in this publication was in English, allowing for a greater readership. Through this work, Blackwell was linking an older female tradition of herbal work with an emergent female tradition of botanical illustration.²³ Traditionally, botanical illustrations were created to serve the medical field, botanists, or artists, but female artists in the eighteenth and nineteenth centuries slowly expanded their audience.

In the Victorian era, botany was an avenue through which women could cultivate aesthetic and scientific skills while remaining in the domestic sphere. The act of flower painting continued as part of “polite” culture, and there are many unpublished albums of this sort of artwork.²⁴ This type of work was spoken of in derisive tones; for example John Lindley, the first Professor of Botany at the University of London and Assistant Secretary to the Royal Horticultural Society made these comments on April 30, 1829, in his inaugural speech as

22. Ibid., 36.

23. Ibid., 40.

24. Ibid., 178.

Professor of Botany: “It has been very much the fashion of late years, in this country, to undervalue the importance of this science, and to consider it an amusement for ladies rather than an occupation for the serious thoughts of men.”²⁵ Because of his influence, this divisive attitude was felt long after his speech. Working for professional publications, women were often the anonymous assistants and artists for husbands or fathers in the Victorian botanical cottage industries. Their uncredited work can be seen in periodicals such as *Floral Magazine and Botanical Repository* and *Curtis’s Botanical Magazine*.²⁶ Privileged women of the Victorian era were able to hire art teachers or use instructional drawing books to aid in their endeavors.²⁷ Examples of these include “*Easy Introduction to Drawing Flowers According to Nature*” (James Sowerby; 1788) and “*Sketches of Flowers from Nature*” (Mary Lawrence; 1801).

In the generation just before wildflower field guides were first published, female artists in the United States were including botanical illustrations in memoirs and florilegia. In 1850, Susan Fenimore Cooper included her floral artwork and descriptions in *Rural Hours by a Lady*, although she chose to publish anonymously. In 1859, Clarissa W. Munger Badger, published the florilegium *Wildflowers of America*.

The female artists who illustrated these late nineteenth- and early twentieth-century field guides were not always recognized for their work, and in a few cases, little is known of their

25. Kolm, “Women's Work,” <http://blog.sciencewomen.com/2008/11/womens-work-scientific-illustration.html>.

26. Shteir, *Cultivating women*, 179-180.

27. *Ibid.*, 41.

lives.²⁸ Some generalizations can be made, however, from details that can be found of the lives of nine of the women. They were born into middle- and upper-class families as the daughters of businessmen and, in some cases, of socialites, with an occasional mention in some of the social columns in New York City newspapers. They were mostly born in the United States, although Henshaw was born into a wealthy British family and later immigrated to Canada, where she migrated her socialite world by founding many society clubs.²⁹ Rowan was from an upper-class Australian family, and she traveled the world in pursuit of botanical subjects, working in the United States for about a decade.³⁰ In at least one case, these women were part of a family of artists—Armstrong’s father was a notable stained-glass artist, and her sister was both an illustrator and stained-glass artist; their home was an intellectual gathering place for artists such as Winslow Homer, Augustus St. Gaudens, John La Farge, and William Merritt Chase.³¹

In the late nineteenth century, more women who were beginning to seek professional careers in the arts were struggling with the choice of whether to choose an artistic career over marriage or to try to balance their professional pursuits with their marriages.³² Clements, Henshaw, Rowan, and Thayer are known to have married; Armstrong never did, and Satterlee is often referred to as “Miss Marion Satterlee” implying her unmarried status as well. Of those that

28. In particular, the author could find very little on the lives of Margaret Warriner Buck, Emma Graham Clock, Mary Keffer, and Marion Satterlee.

29. Bramham, “Julia Henshaw,” <http://www.vancouver.sun.com/life/Julia+Henshaw+unique+woman/10178891/story.html>.

30. Wilson, “Ellis Rowan,” <http://theplanthunter.com.au/culture/ellis-rowan-plant-hunter/>.

31. Gullans, and Espey, *Occasional Papers*, 11-12.

32. Prieto, “Sculpting Butter,” 108-44.

did marry, only Clements did not have any children. It seems that like the female population at large at this time, these artists varied in their marital and familial decisions. In the case of Clements, her marriage to botanist Frederic Clements was both a boon and a burden to her career; she was able to collaborate with her husband in the scientific realm, but she also wrote of her duties to him as an assistant and wife, which precluded her from pursuing her own work to further depths.³³ In Thayer's case, she did not pursue education until after she was widowed. Rowan was encouraged by her husband, Captain Frederic Rowan, to pursue a career as an artist, and she traveled both with and without him, occasionally bringing her only son along; he "championed her work and travels at a time when women were trained up to marry, serve and stay at home."³⁴ Beyond these few examples, nothing is known of the support or lack thereof that these artists' spouses showed them and what effect that may have had on their ability to pursue their professional careers.

Most of these women found their botanical subjects in regions where they lived, but a few traveled in search of them. Luquer and Satterlee lived and worked in the northeastern United States. Miller and Whiting, who were friends and teachers in New York City, created their artwork while on vacation in the Adirondacks and the Green Mountains. Clements, Clock, Thayer, and Buck all moved to the western United States, where they took up work as botanical artists. As noted earlier, Henshaw moved to Canada from England, and began her artistic career once in North America. Armstrong and Rowan are the only two who are known to have traveled for extended periods of time in pursuit of their work; in Armstrong's case, she only had the idea

33. Oberg, "Statement in support of Edith S. Clements," <http://viewfromthreecapitals.blogspot.com/2013/05/nebraska-hall-of-fame-part-ii-edith.html>.

34. Wilson, "Ellis Rowan," <http://theplanthunter.com.au/culture/ellis-rowan-plant-hunter/>.

to create a field guide while she was on vacation and could not procure a wildflower field guide for use as a tourist.

At least six of these women formally studied art. Miller, Thayer, and White all studied at the National Academy of Design in New York City and were members of the Art Students League. Buck studied at the Yale School of Art and then the Mark Hopkins Institute. Henshaw attended the South Kensington School of Art while still in England and then learned photography from other botanists while working in Canada. Satterlee took courses in botanical illustration after Frances Theodora Parsons asked her to do the illustrations for her book, *How to know the Wild Flowers*. Rowan proclaimed to be self taught, but probably had some watercolor lessons when she was younger. Clements and Armstrong were self-taught, although, as noted earlier, Armstrong was surrounded by artists her entire life and may have learned from some of them. Additionally, a few of these women studied botany either formally or from a mentor. Most notably, Clements received a Ph.D. in botanical ecology from the University of Nebraska and continued to study phytogeography—the geographic distribution of plant species—in collaboration with her husband. Rowan found a mentor in botanist Baron von Mueller who was working for her father. For both of these women, a relationship with a well-regarded male botanist lent them credibility and connections. Additionally, a number of the field guides mention in the preface the help of scientists at American herbariums. In a time when a female operating in the world of high art was threatening to the status quo of traditional domestic life, illustration was considered suitable for women’s artistic talents.³⁵

35. Prieto, Laura. “Sculpting Butter,” 122.

In many cases, these women were not content to only illustrate field guides but displayed a determination to do work across a wide range of artistic and botanical endeavors. Clements worked in the botanical sciences more than any of the other women; she was an assistant in botany at the University of Nevada and then an instructor in botany at the University of Minnesota. When acting as an assistant to her husband, she played the role of chauffeur, mechanic, cook, stenographer, photographer, artist, and botanist, but she retained her teaching role as an instructor in botany for the Alpine Laboratory that she and her husband founded, which trained many botanists and ecologists during its four decades in existence. She illustrated her husband's publications before she published her illustrations in field guides which she authored. Miller and Whiting pioneered an embroidery revival in Deerfield, Massachusetts after discovering works by anonymous female artists from previous generations; they desired to show how Puritan aesthetics in this genre were not as austere as stereotypes would have us believe. In most cases, these designs were botanical in nature, paralleling their careers as botanical illustrators. Luquer founded the Bedford Garden Club in order to preserve endangered native plants and to educate visitors about conservation. Thayer was a successful novelist. Rowan was known to be an intrepid explorer, all in search of botanical specimens to paint. Henshaw was also an explorer and general outdoorswoman; she reached the summit of the Asulkan Pass in the Glacier National Park in 1910 and mapped much of the interior of Vancouver Island. In a remarkable display of energy, she was also an editor of *the Vancouver Province*, a theater critic in the *Weekly Province* (under a male pseudonym), a pioneering motorist (she and her husband were the first to drive across the Rockies), an ambulance driver during WWI, and she founded the first women's social club in Vancouver. Armstrong similarly had various professional

pursuits; she was a prolific binding designer, an editor, a poet, and an author of several very successful biographies and murder mystery novels. She was also the first white woman to descend the Grand Canyon.³⁶

Only a few details are known about the expeditions and working methods of these artists. Rowan was known to have travelled alone in many cases, occasionally accompanied by her husband and/or son; while in the United States, she spent most of her time with the author of the books she illustrated, Alice Lounsberry. Armstrong, who was unmarried, traveled to the western States with female companions. Clements, who had a car supplied by the Carnegie Institute which funded her and her husband's Alpine laboratory, drove around the West on her own to paint in the field. Presumably, due to the necessity for capturing accurate colors, the artists completed their work in the field, however, Shaw noted that she did occasionally bring collected specimens back to her studio to finish her work. Thayer notes in her preface that she carried her "little tin box of colors" with her on excursions.³⁷

The women collected specimens both to aid in their artistic renditions and to add to scientific collections. Shaw, Rowan, Armstrong, and Clements are all known to have collected specimens. Clements, in fact, assembled the *Herbaria Formationum Coloradensium*, which included 530 specimens of Colorado mountain plants after several summers of collecting. In a few instances, the artists, in search of their subjects, came across rare flowers. Thayer was the first person to report that the giant helleborine could be found in Colorado. Henshaw discovered the incredibly rare pink lady's slipper in British Columbia and considered it the highlight of her

36. Of these field guides, she is the binding designer both of her own book, *Field Book of Western Wild Flowers*, and *How to Know the Wild Flowers*.

37. Thayer, *Wild flowers of the Rocky Mountains*, 10.

career. When Armstrong descended the Grand Canyon, she also discovered previously unpublished species.

A few of these artists expressed a rationale for their artistic activities, placing their work within a greater context of this era. Miller and Whiting, the embroidery revivalists, expressed lament for a pre-industrial era with a greater “sense of beauty,” and saw artisanship as a means of attaining well-being.³⁸ Their pursuits in the art of embroidery followed their time as botanical illustrators; they were consciously choosing an art that fit more in the Arts & Crafts world than in the commercial publishing industry, although they continued to make a living from their art. Clements greatest goal was to put her talents in the realm of ecological science to the benefit of humankind; she always intended her art to be in service of the conservation of plants, hoping it would “help create a sentiment in favor of their preservation.”³⁹ Rowan had an aesthetic obsession with seeking out flowers to paint. She wrote of her endeavors: “The excitement of seeking and the delight of finding rare or even unknown specimens abundantly compensated me for all difficulties, fatigue, and hardship.”⁴⁰

There are many indications that these women were creating their artwork for a popular audience. They sometimes employ a travelogue style of writing and a non-scientific style of illustration, which would appeal to those outside the academic realm. Another tactic for accessibility was the use of common names instead of Latin ones, which Armstrong, among others, used and defended:

38. Batinksi, “Completing the Picture,” 185.

39. Clements, *Flowers of mountain and plain*, [i.].

40. Harvey, “Biographical Notes,” <https://www.anbg.gov.au/biography/rowan.biography.html>.

Most eastern wild flowers have fairly good names and even in the west—a young civilization is apt to be content with variations of “bells” and “roses”—they have some fine names, such as “our Lord’s candle” (*Yucca Whipplei*), “sweet-after-death” (*Achlys triphylla*) and “flaming sword” (*Fouquieria splendens*). Such names as these enrich our language and should be preserved at all costs. Shall we encourage children to gather nose-gays of *Blepharipappus*, *Mesembryanthemum* and *Malacothrix*? Heaven forbid!⁴¹

Along these lines, indices in these works contain both Latin and English names for cross-reference and glossaries of botanical terms for the ease of the general user. Although accurate enough to be used for identification, the compositions are often arranged or executed in an artistic manner. Contemporary reviewers very often note that these field guides were for a popular audience and point out why they are good for the general reader:

In preparing a popular work on wild flowers, the author is confronted at the outset with the difficult question of arranging it so that it may be easy to use. A great many people who are interested in plants in a casual way, have perhaps neither time nor inclination to study botany thoroughly. They meet with plants in their rambles that they wish to know the names and uses of, and books have been prepared that will enable them to ascertain these facts with the minimum of exertion on their part.⁴²

Eight of the books were also authored by the artists, and in the case of the others, the artists worked in close collaboration with a female author; they were well aware of the audience for whom they were illustrating the wildflowers. All of the introductory texts to these guides state their ability to be used by a popular audience, as they are free from the “brogue of technicality.”⁴³

These wildflower field guides of the late nineteenth and early twentieth centuries were issued in publishers’ bindings, with all of the books of a single edition being bound at once in a

41. Armstrong, “Common Plant Names,” 362.

42. Knowlton, *The Plant World* 2, no. 10, 175.

43. Lounsberry, *Southern wild flowers and trees*, 2.

single style. Prior to this practice, books were bound individually, usually based on the owner's specifications. During the Industrial Revolution, the binding of books became more mechanized, allowing for the cheaper production and wider circulation of books in general.⁴⁴ With larger markets and circulation, a more durable material was needed for covers, and a stiffened dyed cotton was invented for the purpose. This material allowed for decoration with color blocking, a process that was perfected in the 1870s, resulting in a stunning output of these decorative bindings.⁴⁵ Many of the designers of these bindings were also female; incidentally one of the botanical artists of this era, Margaret Armstrong, first found a professional arena for her artwork as a prolific binding designer. The durability of these covers would serve the books well when being carried through the woods and constantly leafed through.

Upon opening the decorated covers of these books, the colorful botanical artwork is immediately apparent; all but two texts feature as a frontispiece either chromolithographs or color offset lithograph of one of the paintings or photographs.⁴⁶ Color has always been of particular importance in the illustrations of botanical texts, understandably due to the need for identification. In fact, the first American book to be published with plates printed in color was the *American Medical Botany* (1817–20).⁴⁷ Part of the preface to *A Guide to the Wild Flowers* reads: “Modesty, we learn from the flowers, is one of the winsome virtues. It is therefore said

44. Chappell, *A Short History*, 193-198.

45. Sadleir, *The Evolution of Publishers' Binding*, 40, 61.

46. *The Wild Flowers of California* (1897) does not have a frontispiece, and *Mountain Wild Flowers of America* (1906) features a print of one of Henshaw's photographs instead of one of her drawings.

47. “An Introduction to Resources: Botanical Illustrations,” *Winterthur Library*, http://www.winterthur.org/pdfs/Botanical_Illustrations.pdf.

with much modesty that what has been formerly lacking to make these books thoroughly useful and practicable to the student is supplied in the present volume. It is COLOUR.”⁴⁸

The advent of lithography in the early nineteenth century brought about a surge in the production color illustrations for books.⁴⁹ The ability to print inexpensive color reproductions was paramount to the success of popular botanical field guides; not only were the illustrations aesthetically appealing in their use of the vivid and stable colors of lithographic inks, but the inclusion of color was also helpful for the identification of local flora by a popular audience. The first two books, illustrated by Emma Homan Thayer, are printed by the process of chromolithography, but the subsequent illustrations are printed using a halftone pattern in “a regular network of large, fuzzy-edged dots” with the four process colors of cyan, magenta, yellow, and black.⁵⁰ These dots can easily be seen with a small amount of magnification or a sharp eye, but when viewed from a reading distance, the dot patterns merge together, and the offset inks create a wide variety of colors that still retain their vivacity. Misregistration of the color plates is common to this printing technique, and can be seen in virtually every consulted copy of these field guides. The books are not a production of the careful and time-consuming Arts & Crafts movement but rather of a commercial enterprise. Perfection was not the goal; they were meant to reproduce original artwork in striking colors in an inexpensive way that was accessible to a large audience. The inks used in offset lithography are rather viscous and can pull fibers out of paper during printing, known as “picking.” To avoid this, printers typically either

48. Lounsberry, *A guide*, viii.

49. Benson, “Chromolithography,” *The Printed Picture*, 62-65.

50. “Graphics Atlas”. *Image Permanence Institute*, http://www.graphicsatlas.org/identification/?process_id=46#magnification.

used a paper with tighter fibers or a coated paper.⁵¹ The color plates in these field guides are all printed on coated paper stock, giving the images a resulting crispness, even with the fuzziness of misregistration. Moreover, the slight gloss of these coated papers lends the images a certain amount of visual dimensionality that would not be possible with a matte paper stock, such as those used for printing the text.

In addition to color plates, many of the books are filled to the brim with pen-and-ink drawings, so that most of the plants discussed are illustrated in some way. The thirteen books contain almost two thousand pages with illustrations, of which most are full plates; 291 of these illustrations are in color. Henshaw's work is unique in this group of artists as she worked in the medium of photography, although the presentation is otherwise very similar. Some of the books, such as those illustrated by Thayer and Clock, contain a fairly small number of colored plates, with no pen-and-ink illustrations; while helpful for identification, these guides clearly focus on an aesthetic presentation at the sacrifice of inclusivity of specimens. The final book, by Clements, finds a balance between a limited number of color plates which include a fairly large number of specimens within them; this is accomplished by illustrating groupings of flowers. Some of the other books contain a rather astonishing number of plates, such as the 548 in Armstrong's work, which can amazingly be held quite easily in the palm of one hand. The small format and thin paper of this volume, in particular, brings to mind a book of hours, though, in this era the demand was instead for a book of flowers.

51. Ibid, http://www.graphicsatlas.org/identification/?process_id=46#objectview.

In the late nineteenth century, amidst increasing urbanization, nature study became a popular leisure activity. Naturalists were hired to teach in public schools.⁵² Periodicals noted the phenomenon: “The interest that has been awakened in recent years in the popular study of plants and animals is very gratifying to all true lovers of nature.”⁵³ At a meeting of the American Association for the Advancement of Science in 1895, the audience showed a deep interest in and enthusiastic reception to a lecture on flowers.⁵⁴ Walking clubs were formed to combat sedentary lifestyles, and doctors proposed that they would be even better for health if the participants had an objective, so people started to identify and/or collect local flowers while out on their jaunts.⁵⁵ The artists of the field guides knew they were creating for this audience; introductory text to the guides made sure to highlight that the works could be used by anyone who carried them into the woods (or used them from their automobile passenger seat). For example, the preface to *Wild Flowers of the North-Eastern States* notes: “Supplementary, then, to the scientific classification, there is a place for the mere lover and observer, who shall display the results of his study in the most direct terms, that require no glossaries of explanation, nor, if it may be avoided, any dissection of flower-growths.”⁵⁶ The guides note that textbooks can be referenced for further information, but that the guides themselves are intentionally concise for the purpose of portability. Contemporary newspaper articles often cite them as “out-of-door” books, and public

52. Kaufman, “Women Forerunners,” 68.

53. Knowlton, *The Plant World* 2, no. 10, 175.

54. “Current Literature”. *Botanical Gazette* 20, no. 10, 467.

55. Alexander, “The Prettiest Wild Flowers,” *San Francisco Call*, 26.

56. Miller and Whiting, *Wild flowers of the north-eastern states*, v.

libraries promoted them for summer reading, noting a “healthy public demand” for the particular genre.^{57 58}

Around the turn of the century, North Americans began to be concerned about the preservation of local flora. California specimen collector E. C. Alexander wrote:

Nine years ago cream caps grew in great profusion all around San Francisco. The most beautiful ones that I have ever seen were near Holy Cross Cemetery. I have picked dozens of them in former years as large as a dollar. But now you can scarcely find a plant, and the blossoms are small and of an inferior quality. A great many other varieties of flowers that once were plentiful have disappeared entirely.⁵⁹

In some cases, there was an element of national pride in these concerns; in *How to Know the Wild Flowers*, Parsons writes about the local flora being crowded out by European emigrants.⁶⁰ Increasing industrialization and individual ignorance—in the form of ripping up the roots when picking flowers—were also blamed. Collectors such as Alexander promoted the act of picking as a means of creating a record—documentation as conservation—which was only ethical if the roots were left intact. With the help of a chemist, she had a proprietary secret to preserve the colors of her specimens, which she collected into albums to sell.⁶¹ In the same vein, it has been noted that many of the species recorded by Rowan are now extinct or endangered.⁶²

57. “Out-of-door Books”. *New York Times*, 29.

58. “Outdoor life in books.” *New York Times*, 17.

59. Alexander, “The Prettiest Wild Flowers,” 26.

60. Parsons, *How to know the wild flowers*, xiv.

61. Alexander, “The Prettiest Wild Flowers,” 26.

62. Wallis, Paul. “Op-Ed: Australia’s brilliant daughter,” <http://www.digitaljournal.com/article/261306>.

The Wild Flower Preservation Society of America formed in 1902. Members of the society received issues of *Plant World*, a magazine of popular botany in which contemporary wildflower field guides were reviewed.⁶³ The society aimed to arouse public involvement in the passage of conservation laws and to discourage the picking of wildflowers except for study by scientific institutions.⁶⁴ This increasing interest in wildflower conservation presumably created an even wider market for the field guides of this time. Some of the text within the field guides explicitly promotes flower preservation, either expressing a desire that it will become an interest of the reader or claiming it as a “moral responsibility” of the lover of nature.⁶⁵ ⁶⁶ Additionally, the rapid urbanization of America, including the popularity of automobile and train travel, stimulated an interest in travel and sightseeing, which created a desire for nature guides.⁶⁷ This reason for the increase in interest in wildflowers, however, was also a cause for their demise; the creation of roads and train tracks as well as increased foot traffic in concentrated areas endangered the local flora. Some of the botanical artists of these field guides were involved in the conservation movement in other ways beyond fostering an interest in plant identification. Clements and her husband spent the Dust Bowl years driving around the Great Plains and the Southwest encouraging conservation measures that could combat the loss of farm and range land.

63. Knowlton, Pollard, and Shear, ed. *The Plant World* 5, no. 1, front matter.

64. “Wild Flower Preservation Society of America Records (RA),” http://www.nybg.org/library/finding_guide/archv/wfps_a_b.html#a0.

65. Clements, *Flowers of mountain and plain*, [i.].

66. Lounsberry, *A guide to the wild flowers*, xvi.

67. “The Virtual Field Herbarium”. *University of Oxford*. <http://herbaria.plants.ox.ac.uk/vfh/>.

Luquer's founding of the Bedford Garden Club, as previously noted, was created with plant preservation in mind.

Ten of the field guides were published in New York, in six different publishing houses; it seems that every major publisher wanted to disseminate one of these popular field guides. One of the books was published in Boston and two in San Francisco. Charles Scribner's Sons of New York had the most titles of this group—three—including the most popular, *How to Know the Wild flowers*, which was reissued as recently as 2012 and is now available for e-readers. Notably, this title was the first portable field guide of wildflowers in North America. Its first printing sold out in five days, and prior to the 1963 edition, hundreds of thousands of copies had been sold.⁶⁸ In its wake were published numerous similar guides with titles that began “How to know,” on subjects such as birds, trees, and the like. Perhaps its most famous endorsement came from Theodore Roosevelt: “I am delighted with it . . . It is so exactly the kind of work needed for outdoor folks who live in the country but know little of systematic botany, that it is a wonder no one has written it before.”⁶⁹ *The Wild Flowers of California* was also published in numerous editions well into the twentieth century, even having its printing plates recreated after an earthquake destroyed them.⁷⁰ A few of the other titles went through two or three editions as well.

These books ranged from around \$1.50 to around \$3.00 at the time of their publication—not as inexpensive as cheap paperback novels, but certainly affordable for middle- and upper-class audiences. In addition to being purchased by individuals, these field guides were seen as

68. “Frances Theodora Parsons,” *Journal of the Sierra College Natural History Museum*, <http://www.sierracollege.edu/ejournals/jscnhm/v6n1/parsons.html>.

69. “For all who love flowers,” *New York Times*, 21.

70. “Wild flowers of California.” *San Rafael Daily Independent Journal*, 48.

reference works to be purchased by public schools. For example, *Mountain Wild Flowers of America* was purchased by Canadian public schools, and *How to Know the Wild Flowers* was recommended for reading by ninth graders.⁷¹ By the 1920s, a few of the titles were on a list for junior high school general science references. These books were considered as a gateway for children to more scientific tomes.⁷²

In general, many of these guides received high praise in the press. The texts were lauded as being for a popular audience but also technically accurate. In 1900, the *New York Times* published of *How to Know the Wild Flowers*: “That Mrs. Dana’s work has been found of the greatest service and interest to people generally, who, although anxious and glad to be able to recognize our common wild flowers, might have had neither the time nor the opportunity for the patient study which would give them such information.”⁷³ *Southern Wild Flowers and Trees* was “of more than passing importance to plant lovers or to botanists in general.”⁷⁴ Henshaw’s writing was described as having a “poetic beauty.”⁷⁵ Reviewers commented on the portability of the books for use in the field: “It is a book to take in the woods at this season or on one’s trips a-wheel in the country; it is not too bulky to carry and will well repay the time spent over it.”⁷⁶ Other reviewers mentioned the appropriateness of the books for vacationing—for those who

71. Greene, “Directed Home Reading in the Elementary Schools,” 468.

72. Murdoch, “What Children Read at Home,” 45.

73. “Saturday Review,” *New York Times*, 17.

74. C. L. P. *The Plant World*, 239.

75. “Review”. *The Ottawa Naturalist*, 115.

76. *The Art Interchange*, 142.

would not “go at the study in more than a holiday spirit.”⁷⁷ Many noted that the commonly-employed tactic of grouping the plants by color was an excellent help to non-botanists. For works that also contained line drawings, the coloring-in of illustrations was conceived as a record of personal trips. The copy of *Wild Flowers of the North-eastern States* at the New York Botanical Garden was partially hand colored by its former owner, Eleanor Marquand during the late nineteenth and early twentieth centuries. Another method of recording personal travels was to insert specimens into the book at the page where the flower is described; the copy of *The Wild Flowers of California* at the New York Botanical Garden still has specimens stuck in at the correct page.

The books were also reviewed within the realm of scientific literature. They were mentioned as reference works for readers who submitted specific plant questions to newspapers and periodicals. A number of the titles were included in Torrey Botanical Club indexes to American Botanical Literature.

There were, of course, a few critiques of the texts. Some noted that the glossaries did not actually contain enough information to be useful. *How to Know the Wild Flowers* was critiqued for using the universal term “our common wild flowers,” while actually only focusing on the flora of New England and the Middle States. This geographical hole was filled with subsequent titles. Although many of the guides were divided by color for ease of use, it was suggested that further subdivisions would be extremely helpful as they were still a bit unwieldy to use, with so many plants to sift through.

77. T., “Our Native Trees,” 986.

The books were mostly reviewed in a positive light, however, and in particular, the illustrations were celebrated. They were considered to be of artistic merit beyond illustration: “The plates lithographed in the highest style of the art . . . A book of unusual beauty. Each plate is handsome enough to be framed by itself. It is worthy of a place upon any drawing-room table, and especially of a careful study from those who cultivate flower painting.”⁷⁸ The illustrations were said to be worthy of the colored plates of “very decided artistic excellence and accuracy.”⁷⁹ They were seen as “truly artistic,” while also being praised by eminent botanists, such as Nathaniel Lord Britton.^{80 81} Scientific publications lauded the illustrations as well, saying that they “give in every instance an excellent general idea of the plant’s appearance in the field.”⁸² Photographic reproductions, in the case of Henshaw’s work, were also favorably reviewed: “The hundred full page half-tones reproduced from the best of many hundred photographs of mountain flowers taken by the author are in themselves worth far more than the price of the book . . . no lover of nature can afford to be without it.”⁸³ The publishers were commended for their ability to reproduce the artwork in a satisfactory manner.⁸⁴ The variety of publications that praised the illustrations in these field guides and the manner in which they are discussed demonstrate that botanical illustration can be a legitimate artistic endeavor while still helpful to plant

78. “Back Matter,” *The Decorator and Furnisher* 15, no. 3, 93.

79. “Current Literature,” *Botanical Gazette* 18, no. 8., 319.

80. Bailey, “Field Book,” 104.

81. Dawson, “Duplication,” 592.

82. “Reviews,” *Bulletin*, 213.

83. “Review,” *The Ottawa Naturalist*, 115.

84. Day, “Alphabets, Old and New,” xxxi.

identification and scientific pursuits. In the case of identification, they may be more helpful than more traditional works as they contain “many little notes and hints which never find place in a scientific work” and are unhindered by scientific conventions.⁸⁵ Botanical periodicals emphasized the achievements of the female illustrators in these books: “The artists should receive more than a passing commendation of their work, for not only is it truthful, but the graceful forms have lent themselves to most artistic treatment.”⁸⁶

Even though contemporaneous publications lauded these botanical works, they have only rarely received even a ‘passing commendation’ in recent scholarship. A handful of these artists’ original drawings and paintings are now being collected by museums and botanic gardens, but they are not often exhibited. Clements’ original watercolors reside at the Denver Museum of Natural History, and Luquer’s are at the Brooklyn Botanic Garden. The Gray Herbarium at Harvard owns some of Shaw’s original paintings, and Rowan’s are collected by the National Library of Australia, Adelaide Botanic Gardens, and the Powerhouse Museum and Queensland Museum. Armstrong’s drawings and paintings are in the collections of the Metropolitan Museum of Art. The purchasing of some of these bodies of work in a way validates their artistic merit for a contemporary audience, but their display would do more to bring them into a contemporary artistic awareness.

Most of the books can be found in various editions across many libraries, especially those whose strength is in botanical collecting, such as the Mertz Library at the New York Botanical Garden and the Harvard Botany Libraries. They can also be found, however, in public and

85. “Reviews” *Bulletin of the Torrey Botanical Club*, 213.

86. J. M. C.. *Botanical Gazette* 27, no. 6, 484.

university libraries. Specimens collected by the artists have been retained for scientific study by various institutions. The University of Nebraska State Museum holds Clements' specimens. Shaw's are at the Gray Herbarium and the University of Maine. The specimens collected by Armstrong are at the New York Botanical Garden. Exhibitions that could combine their original artwork, the specimens they collected, and the books published with their illustrations would do a great deal to highlight the contributions of these women to both art and science.

In their own time, a number of these artists exhibited their work. Luquer had watercolors exhibited at the American Watercolor Society Annual Exhibition and oil paintings shown at the Brooklyn Botanic Garden. Henshaw's photographs were published in *Canadian Magazine*, and Humphrey exhibited in many institutions during her life. Clements work was featured in National Geographic in the 1920s. Rowan exhibited widely and won many awards, angering male artists in the process; they were specifically annoyed that botanical art would win over landscapes and portraits, claiming that they "didn't consider flower painting to be art."⁸⁷ Even those who did not exhibit their original artwork gained a certain amount of recognition through the published plates of their work in these field guides; they are always credited on the title page and often given further mention in the preface.

The artists have since passed somewhat into obscurity, although the field guides still occasionally receive attention in the botanical realm. In 1968, Peter H. Raven, long-time director and now President Emeritus of the Missouri Botanical Garden wrote about *The Wild Flowers of California*:

87. Wallis, "Op-Ed," <http://www.digitaljournal.com/article/261306>.

This charming volume, with its lively and attractive line drawings, is as useful a guide to the wildflowers of California as any that has appeared in more than 65 years since its first publication. The account of each species reveals a sensitive eye for beauty and a style which is particularly attractive at the present day, when “urban sprawl” has reduced so much of California to unattractive jumbles of asphalt and concrete.⁸⁸

While working primarily as artists, these women did work within the realm of natural history, and they helped set the stage for future generations of female naturalists. Writer and activist

Polly Welts Kaufman has written about the emergence of female professionals in the field:

“There was a long tradition of women’s amateur study of natural history, and by 1920 enough women had entered the professional ranks to serve as models and raise expectations for other women.”⁸⁹ In the early twentieth century, women were increasingly able to become college faculty and nature-study teachers in public schools. They created herbariums and nature guides for natural parks. They continued to publish and illustrate field guides. Notable naturalists Alice Eastwood and Florence Merriam Bailey did extensive field-work in national parks.⁹⁰ In honor of one of the field guide artists, The Eloise Payne Luquer Medal is now awarded for special achievements in the field of botany which may include medical research, the fine arts, or education.⁹¹

Wildflower field guides continue to be a popular genre. The University of Oxford’s Virtual Field Herbarium notes their societal importance: “When people are not aware of the plant

88. Raven, “The Wild Flowers of California,” 103.

89. Kaufman, “Challenging Tradition,” 4.

90. Ibid.

91. “GCA Medals,” *The Garden Club of America*, <https://www.gcamerica.org/index.cfm/awards/details/id/14>.

diversity around them, they are in no position to make optimum use of their environment, or even to notice when species are going extinct. By promoting field guide production, we hope to be promoting the sustainability of rural livelihoods and conservation of biodiversity at the same time.”⁹² The art of botanical illustration can help to further this goal. Thayer, Satterlee, Shaw, Miller, Whiting, Buck, Rowan, Henshaw, Armstrong, Clock, Keffer, Luquer, and Clements used their artistic talents to promote the awareness of wildflowers in the late nineteenth and early twentieth centuries; their work and their stories can continue to do so today. The popularity of wildflower field guides in the late nineteenth and early twentieth centuries allowed these artists an avenue through which to pursue their scientific and artistic goals. Current concerns about the loss of biodiversity could create a fertile climate for an appreciation of their art in our time.

92. “The Virtual Field Herbarium,” *University of Oxford*. <http://herbaria.plants.ox.ac.uk/vfh/>.

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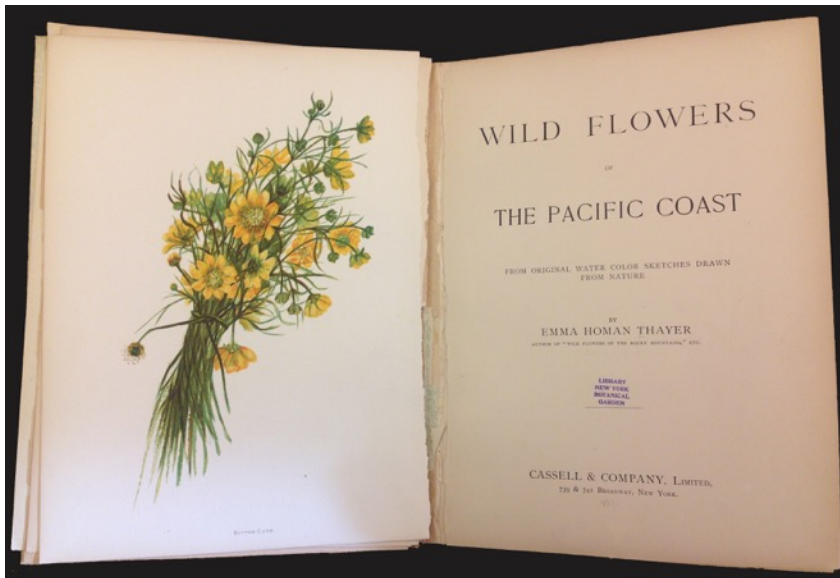
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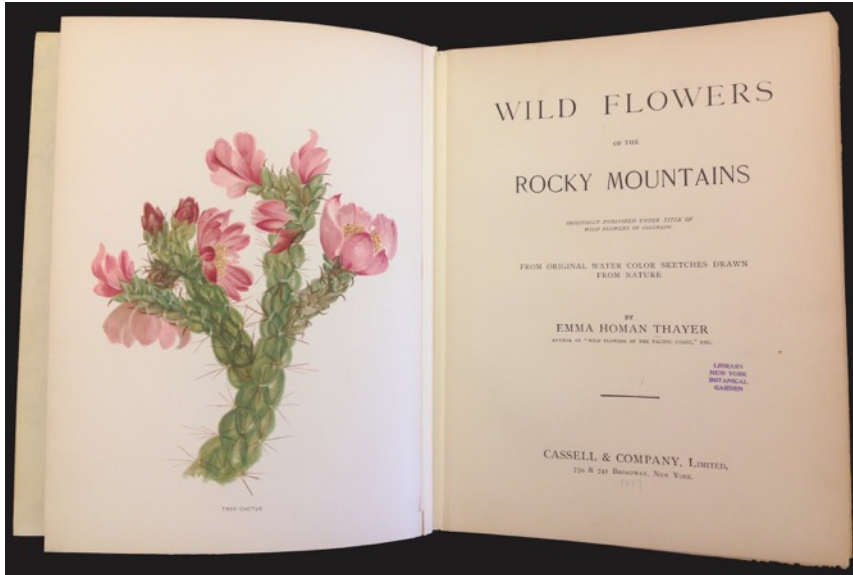
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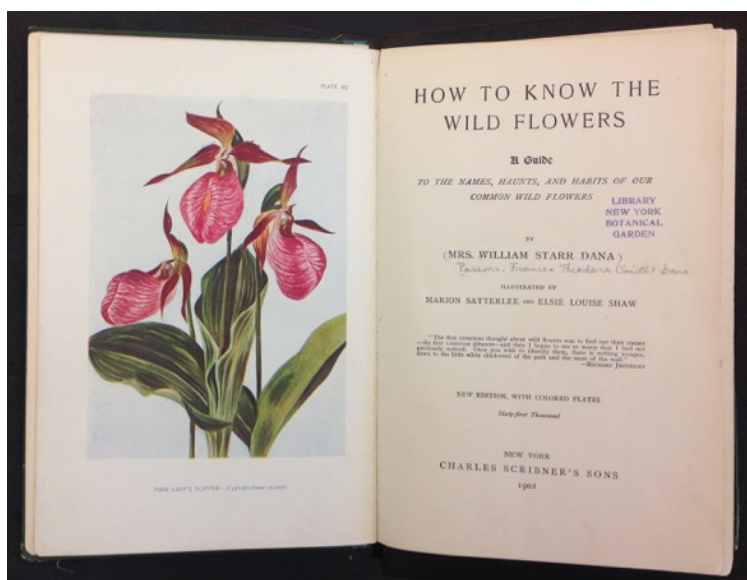
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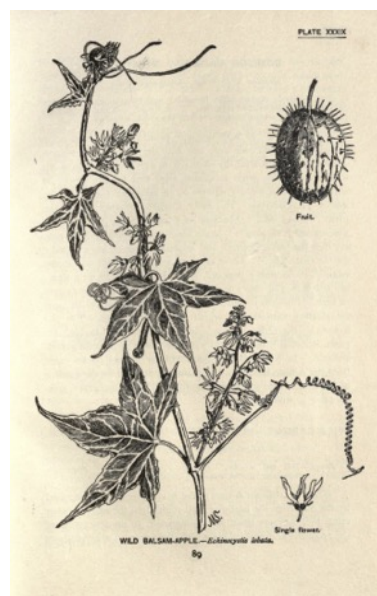
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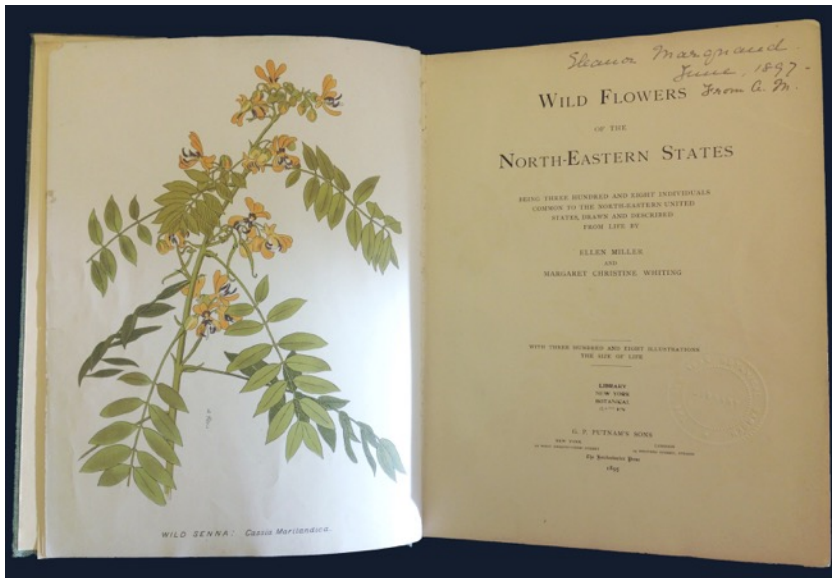
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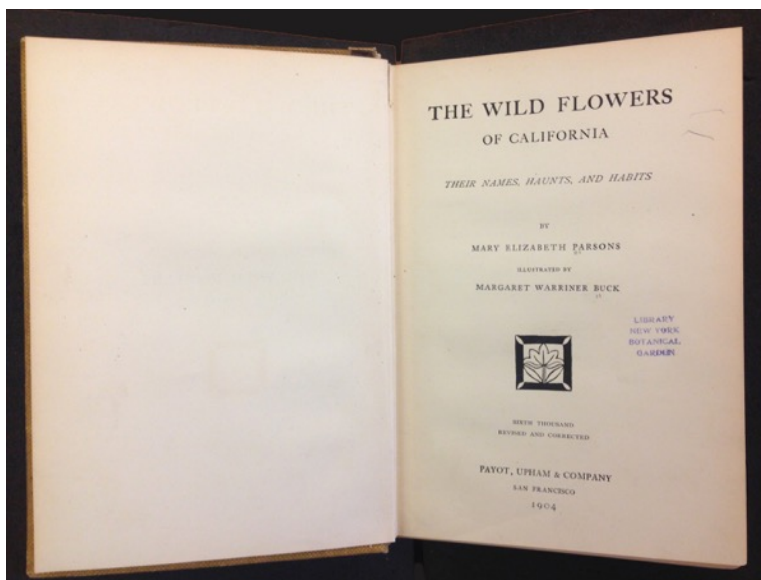
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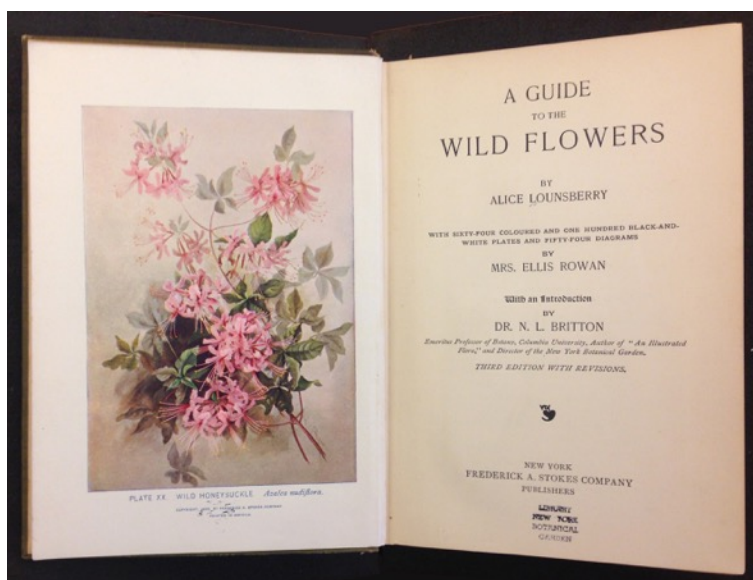
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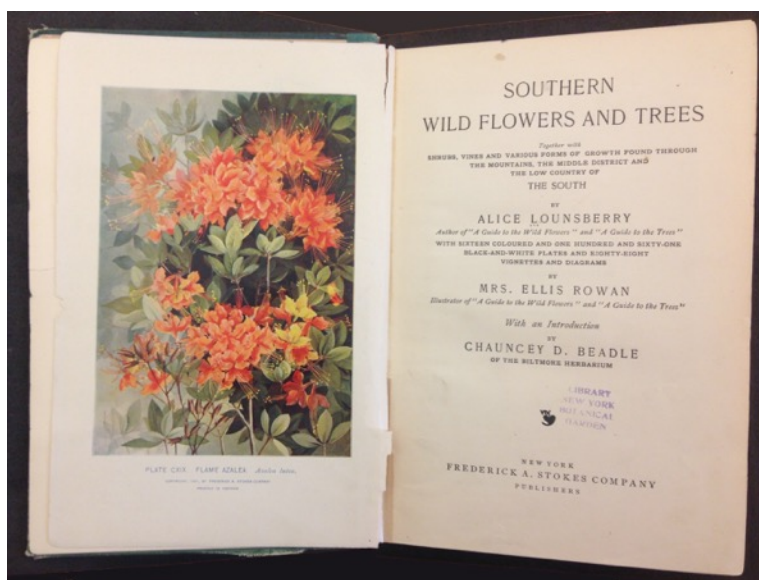
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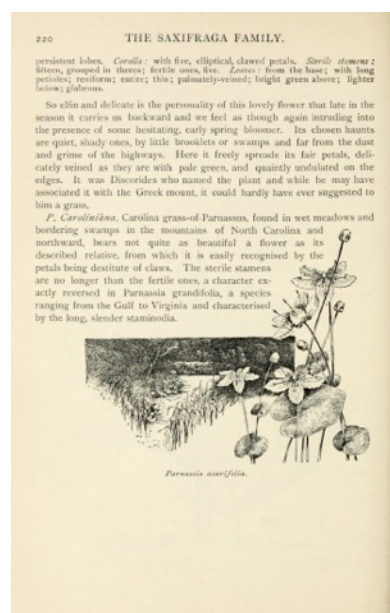
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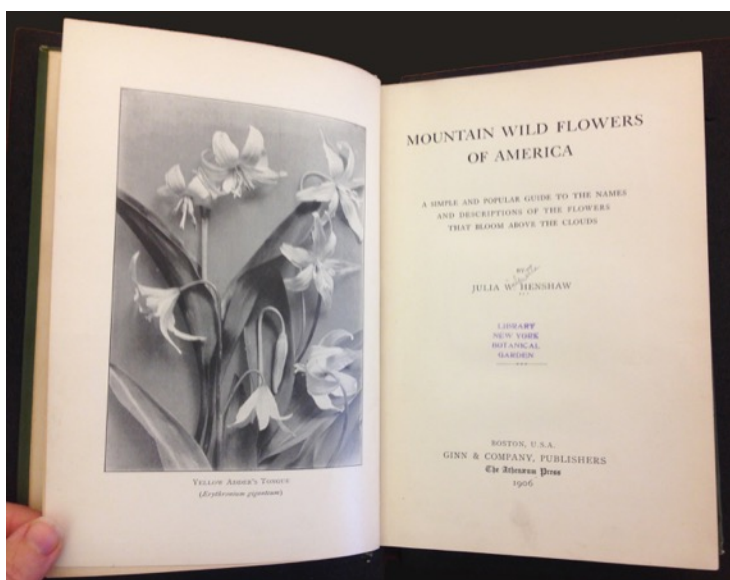
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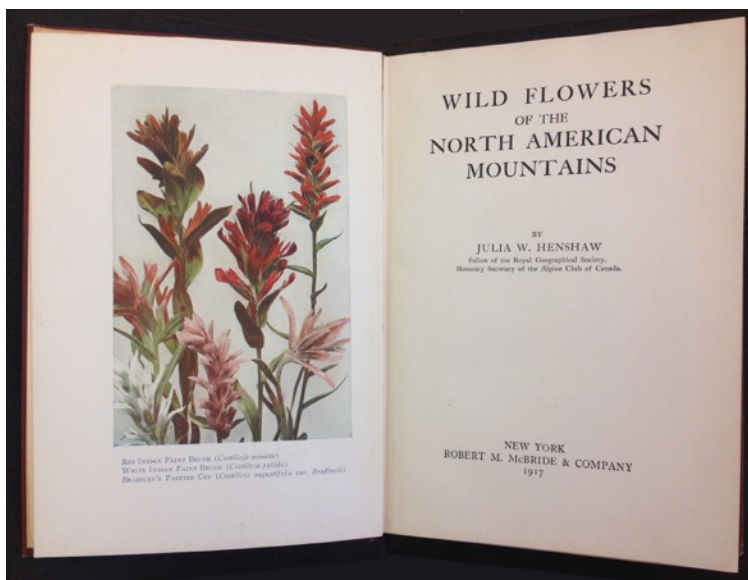
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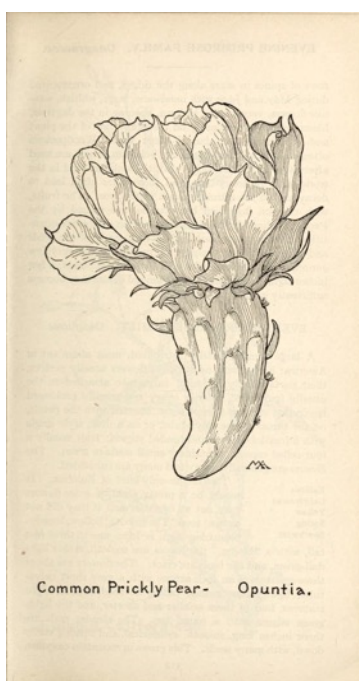
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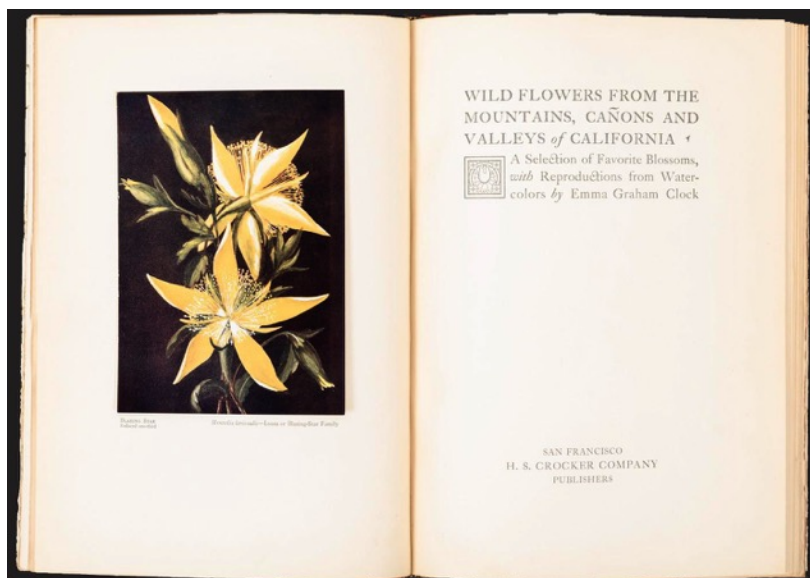
25 Armstrong, Margaret Neilson, *Field book of western wild flowers*, New York: Putnam, 1915, frontispiece and interleaving tissue over title page, offset lithography (plates), xx, 596 p., 18 cm. LuEsther T. Mertz Library, New York Botanical Garden, New York (artwork in the public domain; photograph by the author).



26 Armstrong, Margaret Neilson, 1 of 500 black offset lithograph plates in the above title (photograph by the Mertz Library).



27 Armstrong, Margaret Neilson, 1 of 48 color offset lithograph plates in the above title (photograph by the Mertz Library).



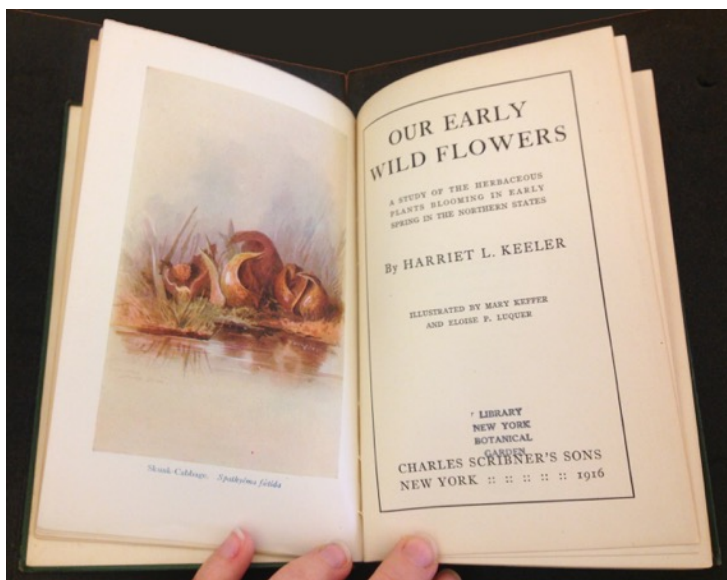
28 Clock, Emma Graham, *Wild flowers from the mountains cañons and valleys of California: a selection of favorite blossoms, with reproductions from watercolors*, San Francisco: H.S. Crocker Company [1915], frontispiece and title page, offset lithography (plates), 32 p., 20 cm. Private collection (artwork in the public domain; photograph provided by PBA Galleries, San Francisco).



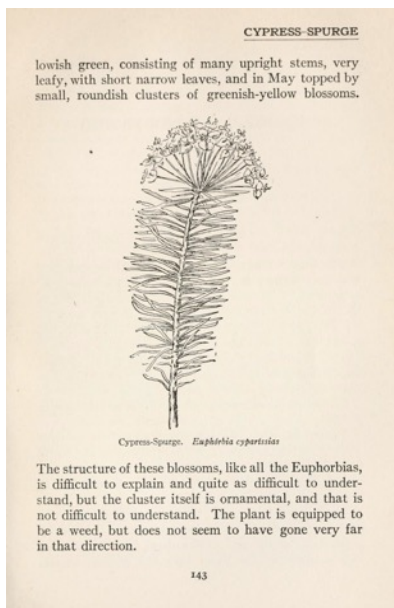
LEOPARD LILY (Tiger Lily)
Natural size

Lilium pardalinum—Lily Family

29 Clock, Emma Graham, 1 of 16 color offset lithograph plates from the above title (photograph by Cornell University Library).



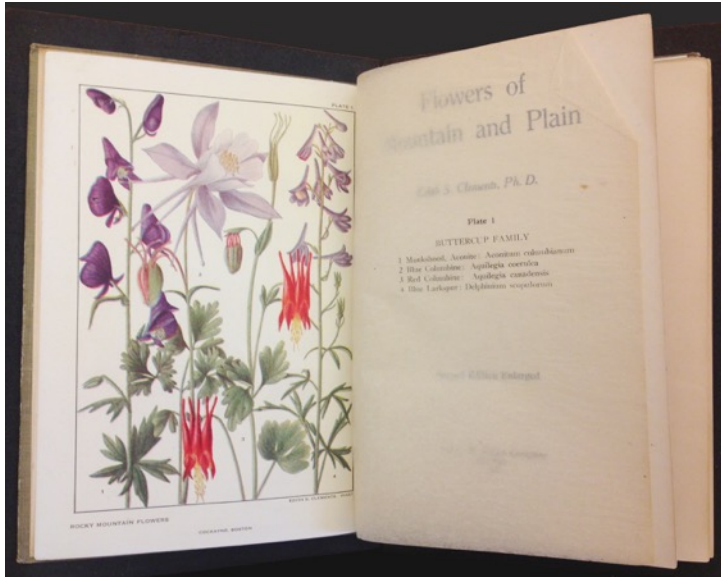
30 Keffer, Mary and Luquer, Eloise Payne, *Our early wild flowers: a study of the herbaceous plants blooming in early spring in the Northern states*, New York: Scribner's, 1916, frontispiece and title page, offset lithography (plates), xxviii, 252 p., 17 cm. LuEsther T. Mertz Library, New York Botanical Garden, New York (artwork in the public domain; photograph by the author).



31 Keffer, Mary and Luquer, Eloise Payne, 1 of 94 black offset lithograph vignettes in the above title (photograph by the MBLWHOI Libraries).



32 Keffer, Mary and Luquer, Eloise Payne, 1 of 8 color offset lithograph plates in the above title (photograph by the MBLWHOI Libraries).



33 Clements, Edith Schwartz, *Flowers of mountain and plain*, White Plains, N.Y.: H.W. Wilson Co., 1916, c1915, frontispiece and interleaving tissue over title page, offset lithography (plates), [4] p., 22 cm. LuEsther T. Mertz Library, New York Botanical Garden, New York (artwork in the public domain; photograph by the author).



34 Clements, Edith Schwartz, 1 of 25 color offset lithograph plates in the above title (photograph by the Mertz Library).

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