



**Atlas Der Krankheiten Landwirtschaftlichen...**  
**August Dressel, Illustrator**

**Botanical art** is the ancient tradition of transmitting knowledge of plants through a *combination of scientific detail and artistic interpretation*.

The goal of a botanical artist is to “understand the structure of plants and to communicate this knowledge to their audience in an aesthetically pleasing manner.”<sup>1</sup>

Botanical art is not just beautiful, but also useful for purposes such as the identification of plants for medicinal purposes.

1924

Potato Identification



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**Most often**, disease and imperfection were edited out in order to present an ideal specimen of the plant.

But the study of plant disease presents a opportunity for the *most perfect example of the disease* to be showcased!

1924

Tomato Diseases



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### Secondary Fungal Infections Kent Loeffler, Photographer

And the role of botanical art in the identification of plant diseases is no less important: “The illustrations were create in order that people looking at the pests and diseases in real life would be able to recognize them from the illustrations.

...Today, there are new techniques for illustrating pests. High quality microphotography and digital imaging, using cameras and scanners, has meant that even line drawings are produced using computers now.”<sup>2</sup>

2003

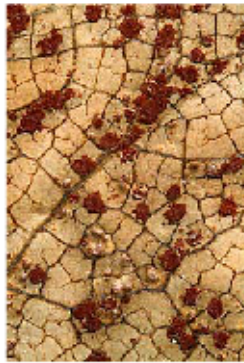
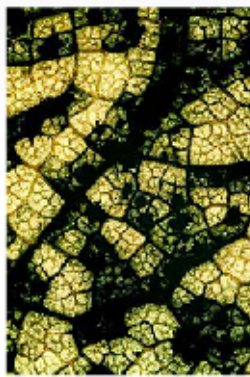
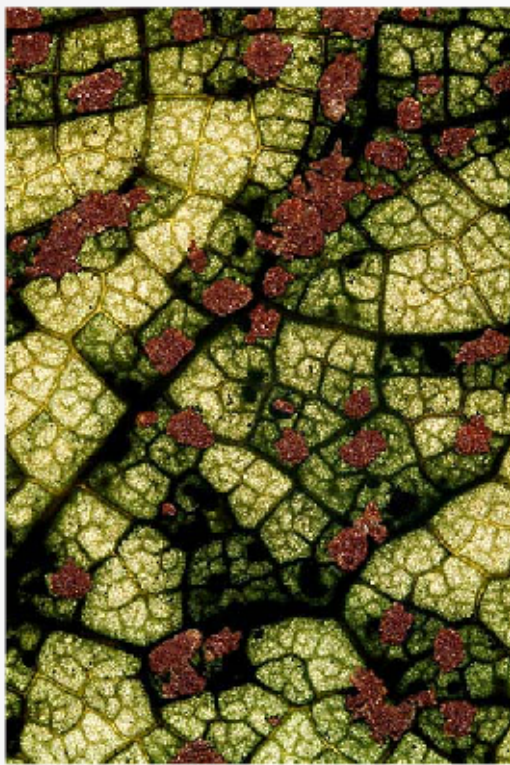
Sunscald



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### **Rust Fungus (*Puccinia angelicaeedulis*) Kent Loeffler, Photographer**

This beautiful, stained-glass like photo of rust fungus (*Puccinia angelicaeedulis*) on a leaf was done by Kent Loeffler, photographer at the Cornell University Department of Plant Pathology Photo Lab.

“This image is a composite of 2 images made with different lighting as detailed below. By placing the two images on overlapping Photoshop layers and using a layer mask, the prominent parts of each image are composited into one.”

“The first image is made using transillumination. The interveinal areas of the leaf show up nicely with this lighting, but the areas of rust infection are thicker and show up as dark blotches with no detail.”

“The second image is made using copy lighting with diffusion. With this lighting the surface and color of the rust fungus are visible but the leaf no longer has a "stained glass window" effect.”<sup>3</sup>

2005

Rust Fungus



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### Atlas Der Pflanzenkrankheiten Paul Sorauer

This color lithograph of *Ustilago maydis* (corn smut or corn boil) and the other 16 color plates of plant diseases that comprise the *Atlas der Pflanzenkrankheiten* were printed essentially as a supplement to the famous German plant pathologist Paul Sorauer's (1839-1916) *Handbuch der Pflanzenkrankheiten* (Manual of Plant Diseases).

The *Handbuch der Pflanzenkrankheiten* was used around the world as a plant pathology textbook, and so the colored plates were most certainly used as teaching material to accompany the text. Even so, the detail and form of the illustration still reflects the detailed, delicate look of more traditional subjects of botanical art.

1900

Corn Smut



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### Common Mushrooms of the United States Louis Charles Christopher Krieger, L.C.C.

These beautiful mushrooms were part of a feature article in the May 1920 issue of The National Geographic Magazine. Meant as a guide for the layperson, this article featured many photographs in addition to 16 pages of Louis Charles Christopher Krieger's (1873-1940) color plates.

Krieger studied art both in the U.S. and abroad, and was for a while a portrait painter. However, mycological illustration and the study of fungi were his calling. He "has been described as 'the creator of the finest series of watercolor paintings of the fleshy fungi yet produced in America' (Stevenson, *Mycologia* 33:241, 1941)."<sup>4</sup>

1920

Mushroom Identification



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### Atlas Der Krankheiten Landwirtschaftlichen... Paul Sorauer

This color print of various dodder species (*Cuscuta sp.*) infecting clover, alfalfa and flax was produced for Otto Appel's (1867-1952) *Atlas der Krankheiten der Landwirtschaftlichen Kulturpflanzen* by the German artist, August Dressel (b. 1862). This illustration, and 45 others depicting various plant diseases, are accompaniments to Appel's three volume text on plant pathology.

The plate also includes text at the bottom suggesting treatments for abatement of the parasitic dodder; clearly a sign that these color plates were meant to serve a useful purpose. And yet, the way the flax arches over the top of the illustration, and the pink clover highlighted in the center, show the care Dressel took with the artistic elements of the illustration.

1924

Dodder Species



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**The Agricultural Gazette of New South Wales  
E.H. Zeck, Illustrator**

“Commissioned in the early 1920s to produce a series of paintings for the Better Farming Train, E.H. Zeck brought the art of illustration to the scientific task of identifying agricultural pests, mites and diseases. His striking water-colours toured rural NSW aboard the train in 1927 to educate farmers. He produced more than 2000 insect drawings during his career and was awarded the Australian Natural History Medallion.”<sup>5</sup>

This illustration of the life cycle of a pumpkin beetle was featured on the back cover of the October 1965 issue. The reverse side of the illustration contains information on the control of the pest.

1965

Pumpkin Beetle



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**The Agricultural Gazette of New South Wales  
Margaret Senior, Illustrator**

"Margaret Senior was a natural history artist and children's illustrator who was commissioned in 1964 to prepare a series of leaflets on the main diseases of agricultural plants for the princely sum of 21 pounds each. She eventually produced more than 80 superb illustrations, which are still in use today."<sup>6</sup>

This illustration of citrus black spot was featured on the back cover of the November 1966 issue. The reverse side of the illustration contains information on the control of the disease.

1966

Citrus Black Spot



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### Wayside and Woodland Fungi Helen Beatrix Potter, Illustrator

These delicate mycological illustrations are by Helen Beatrix Potter (H.B.P.), the creator and illustrator of many famous children's books, including "The Tale of Peter Rabbit." Potter's love of nature prompted the subjects of her books, and influenced her hobby as an "amateur mycologist."

She applied to be "a student at the Royal Botanical Gardens at Kew, but she was rejected because she was female. Potter was later on of the first to suggest that lichens were a symbiotic relationship between fungi and algae, but her one attempt to publish was thwarted... At the time the only way to record microscopic images was by painting them; her pictures of fungi were widely admired."<sup>7</sup>



1967

Mycological Illustrations

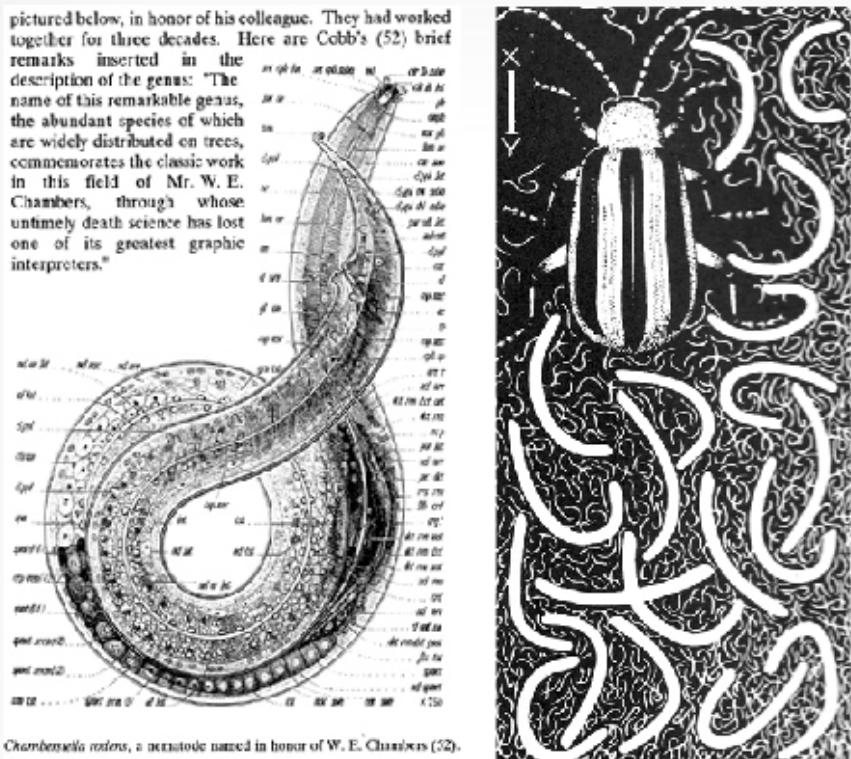


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pictured below, in honor of his colleague. They had worked together for three decades. Here are Cobb's (52) brief remarks inserted in the description of the genus: "The name of this remarkable genus, the abundant species of which are widely distributed on trees, commemorates the classic work in this field of Mr. W. E. Chambers, through whose untimely death science has lost one of its greatest graphic interpreters."



*Chamberella rotans*, a nematode named in honor of W. E. Chambers (52).

110

### Art in Phytopathology: Portfolio of Nathan A. Cobb, Nematologist Nathan Cobb, Illustrator

These drawings of a detailed nematode and an artistic interpretation of the nematodes parasitizing a cucumber beetle are two out of a hundred of Nathan Cobb's (1859-1932) illustrations featured in "Art in Phytopathology."

In addition to being an artist, Cobb was also "considered the 'Father of Nematology' in the United States. He is recognized for developing many innovative techniques for studying nematodes, and his skill as a gifted artist greatly enhanced his descriptions of nematodes and other organisms."<sup>9</sup> In fact, the beautifully intricate nematode shown here was originally published in a 1920 paper where Cobb outlines new taxonomies for 100 genera of nematode.

1994

Nematodes



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## Works Cited

- 1 American Society of Botanical Artists, Definition & Mission <http://www.amsocbotartists.org>
- 2 "Eye of the beholder" New South Wales State Records.  
[www.records.nsw.gov.au/staterecords/docs%5Cvital%20signs%207%20-%20eye%20of%20beholder.pdf](http://www.records.nsw.gov.au/staterecords/docs%5Cvital%20signs%207%20-%20eye%20of%20beholder.pdf)
- 3 <http://www.plantpath.comell.edu/PhotoLab/PicOfMonth/POM2.htm>
- 4 'Artists Represented in the Smithsonian Catalog of Botanical Illustration:' Smithsonian Institution  
<http://revel.si.edu/botany/krieger.htm>
- 5 "Disease never looked so good". [www.ultimosciencefestival.com/wp-content/medialnaturamorta.pdf](http://www.ultimosciencefestival.com/wp-content/medialnaturamorta.pdf)
- 6 "Disease never looked so good". [www.ultimosciencefestival.com/wp-content/medialnaturamorta.pdf](http://www.ultimosciencefestival.com/wp-content/medialnaturamorta.pdf)
- 7 [http://en.wikipedia.org/wiki/Beatrix\\_Potter](http://en.wikipedia.org/wiki/Beatrix_Potter)
- 8 Encyclopedia of Plant Pathology. O.C Maloy & T.C Murray, eds. (2001) Vol 1. pp. 232.

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## Bibliography

Appel, O. (1924). Atlas der krankheiten der landwirtschaftlichen kulturpflanzen : in der Biologischen reichsanstalt für land- und forstwirtschaft nach der natur gemalt von August Dressel. Berlin: P. Parey.  
UMN Plant Pathology Library Rare Books Folio 632.52 Ap48a Non-Circulating

Findlay, W.P.K. (1967). Wayside and woodland fungi. London: F. Warne.  
UMN Plant Pathology Library QK607 .F55 1967 Regular Loan

Krieger, L.C.C. (1920). Common mushrooms of the United States. Washington: National geographic society.  
UMN Plant Pathology Library QK605 .K75x 1920 Regular Loan

Sayre, R.M. (1994). Art in phytopathology : portfolio of Nathan A. Cobb, nematologist. St. Paul, Minn.: APS Press.  
UMN Plant Pathology Library SB729.6.C63 S28 1994 Regular Loan

Senior, Margaret. (1966). Citrus Black Spot (back cover). The Agricultural Gazette of New South Wales, 77:11.  
UMN IN STORAGE: MN Lib Access Ctr 9ZAR04D29S01TBO One Week Loan

Sorauer, P. (Circa 1900). Atlas der pflanzenkrankheiten. Berlin: P. Parey.  
UMN Plant Pathology Library Rare Books Folio 581.2 So68a Non-Circulating

Zeck, E.H. (1965). Pumpkin Beetle (back cover). The Agricultural Gazette of New South Wales, 76:10.  
UMN IN STORAGE: MN Lib Access Ctr 9ZAR04D29S01TBO One Week Loan



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