

Phycological Trailblazer

No. 25

Hannah T. Croasdale

(originally printed in the Phycological newsletter. 2006.
Vol. 42 No. 2)

Hannah Thompson Croasdale was a major figure in 20th century studies on algae. She was also a significant figure in her contributions to the Phycological Society of America in its early stages and throughout her long career. In fact, she was one of the eleven “founding members” of the Society and the only female. But she was always self-effacing, going about her work quietly but with dedication and resolve. Hannah was born in Daylesford, Pennsylvania, in 1905, to Quaker parents who encouraged her to always strive for lofty goals. She attended the University of Pennsylvania, receiving her B.S. degree in 1928. Starting in the summer of 1930, she began working at the Marine Biological Laboratory in Woods Hole as a “botany collector” and instructor, and she continued to perform those duties for the decade of the 1930s. Under the mentorship of Wm. R. Taylor, she pursued advanced degrees in botany back at Penn, earning the M.S. degree in 1931 and the Ph.D. degree in 1935. Her dissertation publication, entitled “The Freshwater Algae of Woods Hole, Massachusetts” (which she published on her own in 1935) was awarded the Sigma Xi Prize for a thesis.

In 1937 Hannah joined the Dartmouth Medical School as a research assistant. Then she

transferred to working as a technical assistant in the Dept of Zoology at Dartmouth College, holding that position up to 1953. She pursued her interests in the algae on her own time, on weekends and summertime. In the summers of 1939-1941, she co-taught a course on algae with Gerald W. Prescott at the University of Wyoming’s field station at Flathead Lake in Montana. That association led to a productive collaboration on their mutual research interests, especially the desmids. Starting in 1943 and on through 1950, she was an instructor in the summer algae course at the venerable Marine Biological Laboratory at Woods Hole, MA. Her research was funded by grants from the National Science Foundation (1952-1955). Over the

summers, by boat and by bicycle, she conducted her intensive survey of the distribution of both the marine and freshwater algal flora of Cape Cod. She displayed boundless energy, and in her prime she was known to swim without fear across the channel known as “Quicks Hole”, between Nashawena and Pasque Islands, where the currents are extremely dangerous when the tidal flow changes. Hannah was very generous in sharing her collections with others, as she did with Rolf Grönblad, sending him her collections made over a three-year period in Vermont, New Hampshire, and in the area of Woods Hole, MA (Grönblad, 1956).

Starting in the mid-1950s, Hannah’s research interest became more oriented toward the desmids, and this necessitated a broad international outlook. She collaborated with other desmid specialists around the world, including Einar Teilung in Sweden, Rolf Grönblad in Finland, and Arthur M. Scott in the USA. A prolific record of publications



Hannah Croasdale, PSA President in 1967
(Courtesy of Bruce C. Parker, PSA Archives)

appeared, covering the desmids of such regions as Labrador, Ellesmere Island, Alaska, Namibia, Sierra Leone, Uganda, Australia, and the Amazon Basin.

It was not until 1953 that she was granted faculty status (the rank of Instructor) at Dartmouth. She spent that summer doing field work in the United Kingdom and in Scandinavia. The following year Hannah received a grant from the Arctic Institute of North America that allowed her to spend the summer collecting algae and mosses in various parts of Alaska. Her work on the freshwater algal flora of Alaska was supported by NSF grants in the early 1960s (Croasdale, 1955, 1956, 1957, 1958, 1962) (Fig. 1). She was

promoted to Research Associate with the rank of Assistant Professor in 1959. In 1961 she was promoted to Research Associate with the rank of Associate Professor, but it was not until 1963 that she was permitted to actually give lectures at Dartmouth.

Hannah's skill as a translator of scientific Latin, both Latin into English or English into Latin, was well known. Randolph Taylor arranged to get funding for Hannah to translate the large monograph (in Latin) on *Sargassum* by Grunow (1915-1916). Stearn's (1966) *Botanical Latin* is dedicated to Hannah Croasdale and Erik Wikén in recognition of their help "to botanists perplexed by the Latin language."

Although Dartmouth might have been slow to recognize the gem in their midst, the Phycological Society of America recognized

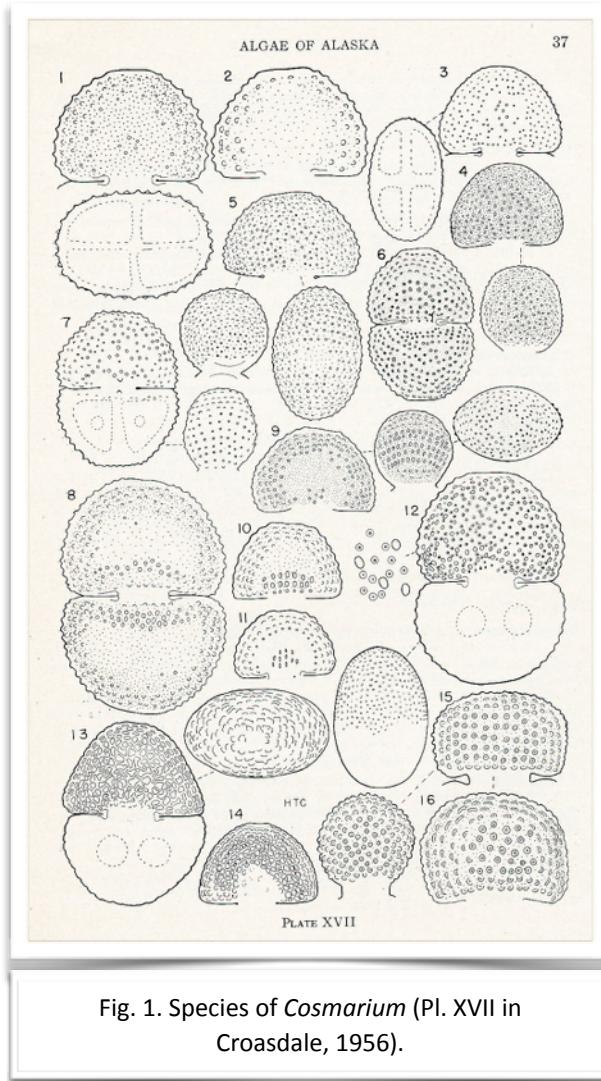


Fig. 1. Species of *Cosmarium* (Pl. XVII in Croasdale, 1956).

Hannah Croasdale's achievements, electing her their Vice-President in 1964. It was that same year that Dartmouth promoted her to Associate Professor of Biology, with tenure.

Hannah was an excellent botanical illustrator, her drawings appearing in the first five editions of the popular textbook "Botany" by Carl L. Wilson. She also provided the illustrations for Teilung's (1967) "The desmid genus *Staurodesmus*." In her pursuit to understand desmids on an international basis, she set about to compile an Iconograph that contained more than 55,000 drawings and descriptions of all desmids that had ever been described (Stein, 1987b), a huge undertaking! This

monumental work was in association with her friend Gerry Prescott as well as Bill Vinyard and Carlos Bicudo and was supported by further funding from the NSF. Eventually, there was published with Prescott and others the "Synopsis of the North American Desmids" in six parts (1972-1983). Most of the illustrations were original and done by Hannah, indicated simply by "HC".

It was during the period of World War II that Hannah became the first female member to serve on the Hanover Volunteer Fire Department, an activity she happily did until she made a move to Norwich, VT, in 1963. Her long service was so valued that she was given a lifetime honorary membership with voting privileges by the Hanover Fire Department.

Ironically, it was over a long night in May, 1989, that her home caught on fire. In a letter to Jean and Randolph Taylor, she related how one evening her home caught on fire, and the local volunteer fire department came out to extinguish the blaze. But after the fire-fighters left, the fire re-ignited. They returned to douse it a second time and left. But later that same night then a third fire flared up, and by then the home had been destroyed, along with her valuable collection of many first-edition books. Hannah was never the type to complain and set about to have her home re-built.

In 1967 she was elected President of the Phycological Society of America, and the following year she was named Full Professor of Biology, the first tenured woman professor at Dartmouth College. That was three years prior to her retirement. She was also awarded honorary membership in the Societas pro Fauna et Flora Fennica. Many other awards and honors eventually came Hannah's way, and deservedly so. In 1983 Dartmouth College established the Hannah T. Croasdale Award, which was set up to recognize "the most significant contribution to the quality of life for women" at the College. In 1985 she was named the Honorary Chairperson at the 24th annual Northeast Algal Symposium held at Woods Hole. The Hannah T. Croasdale Fellowship was established by the Phycological Society of America in 1987, an endowment that generates funds to help defray the expenses of students attending summer field stations (Stein, 1987a). For someone who taught so often at summer field stations, this was especially dear to Hannah's heart.

Although Hannah retired from Dartmouth College in 1971, she was soon given the status of Visiting Professor in Botany, that allowed her to continue teaching summer courses there up through 1978. She also maintained a high level of research output. She collaborated with Elizabeth A. Flint and Marilyn M. Racine to publish *The Flora of New Zealand: Freshwater Algae, Chlorophyta, Desmids* (1986, 1988, 1994).

There are plenty of "Hannah stories" that deserve repeating. Nina Allen relates how in the

late 1970s and early 1980s she was teaching a phycology class at Dartmouth and how Hannah, though retired, was always around to help out. Nina would take the class down to the MBL at Woods Hole every early October, and Hannah, then in her late 70s and with two new hip replacements (which the surgeon did not get quite even), would come along. Hannah's in-depth knowledge of the algae around Woods Hole was invaluable. Hannah, in waders, would accompany the class out to Cedar Swamp, "home of the biggest desmids you could find" on the Cape. On one typical occasion, Hannah led the class into the swamp, in a pouring rain, and soon the water was over the waders, but nothing deterred Hannah from charging ahead, full of energy and information to dispense. Her life-long love of the algae was easily conveyed to the students, and they loved her for it.

Nina Allen also described the scene of Hannah's home that was always open to former students dropping by, or to strangers interested in plants growing in the garden. Elizabeth Flint was visiting from New Zealand, collaborating with Hannah on their 3-volume desmid flora. After working all day in the lab on campus, they would come home to Hannah's place to fix a dinner. mostly of fresh vegetables from the garden and home-baked bread. Then after clearing the dining table, they would spread out their books and notes on the same table and work into the evening. A life-long dedication to her craft was a hallmark of Hannah's career. For many of her retirement years Hannah would spend half the year in her home in Vermont, just across the border with New Hampshire and near the Dartmouth campus, and the winter months in Destin, in the Florida Panhandle. In 1994 she made a permanent move to her Florida home at Santa Rosa Beach, and it was there on July 27, 1999, that she passed away at the age of 93.

- Croasdale, H. 1935. The fresh water algae of Woods Hole, Massachusetts. Published by the author, Philadelphia. 134 pp., 2 fold-out maps.
- _____. 1941. Additional records of marine algae from New Hampshire. *Rhodora* 43: 213-216.
- _____. 1948. Fresh and brackish water algae of Penikese Island. *Rhodora* 50: 269-279, pl. 1118.

- _____. 1955. Freshwater algae of Alaska 1. Some desmids from the Interior. *Farlowia* 4: 513-565.
- _____. 1956. Freshwater algae of Alaska I. Some desmids from the Interior. Part 2: *Actinotaenium*, *Microsterias* and *Cosmarium*, *Trans. Amer. Micros. Soc.* 75: 1-70.
- _____. 1957. Freshwater algae of Alaska 1. Some desmids from the Interior. Part 3: Cosmariae concluded. *Trans. Amer. Micros. Soc.* 76: 116-158.
- _____. 1958. Freshwater algae of Alaska 2. Some new forms from the plankton of Karluk Lake. *Trans. Amer. Micros. Soc.* 77: 31-35.
- _____. 1962. Freshwater algae from Alaska III. Desmids from the Cape Thompson area, *Trans. Amer. Micros. Soc.* 81: 12-42.
- _____. 1965. Desmids of Devon Island, N.W.T., Canada. *Trans. Amer. Micros. Soc.* 84: 301-335.
- _____. 1973. Freshwater algae of Ellesmere Island, N.W.T. National Museum of Canada, Publications in Botany, No. 3. 131 pp. Ottawa.
- _____, C. E. de M. Bicudo, & G. W. Prescott. 1983. A synopsis of North American desmids. Part II. Desmidiaceae: Placodermae. Section 5. The filamentous genera. University of Nebraska Press, Lincoln and London. vii + 117 pp.
- _____ & E. A. Flint. 1986. Flora of New Zealand. Freshwater algae, Chlorophyta, desmids with ecological comments about their habitats. Vol. 1. V. R. Ward, Government Printer, Wellington, New Zealand. 133 pp., 27 pls.
- _____ & _____. 1988. Flora of New Zealand. Freshwater algae, Chlorophyta, desmids, with ecological comments on their habitats. Vol. II. *Actinotaenium*, *Cosmarium*, *Cosmocladium*, *Spinocosmarium*, *Xanthidium*. Botany Division, DSIR, Christchurch, New Zealand. x + 147 pp., 69 pp. of plates.
- _____, _____, & M. M. Racine. 1994. Flora of New Zealand. Freshwater algae. Chlorophyta, desmids with ecological comments on their habitats. Vol. III. Menaaki Whenua Press, Lincoln, Canterbury, New Zealand. x + 218 pp., pls. 62-146.
- _____ & R. Grönblad. 1964. Desmids of Labrador 1. Desmids of the southeastern coastal area. *Trans. Amer. Micros. Soc.* 83: 142-212.
- _____ & A. Scott. 1976. New or otherwise interesting desmids from Northern Australia. *Nova Hedwigia* 27: 501-596. Grönblad, R. 1956. Desmids from the United States, collected in 1947-1949 by Dr. Hannah Croasdale and Dr. Edwin T. Moul. *Soc. Sci. Fenn. Comm. Biol.* 15 (12). 38 pp., 12 pls.
- _____, & H. Croasdale, 1971. Desmids from Namibia (SW Africa). *Acta Bot. Fennica* 93. 40 pp.
- _____, A. Scott, and H. Croasdale. 1964. Desmids from Uganda and Lake Victoria, collected by Dr. Edna M. Lind. *Acta Bot. Fennica* 66. 57 pp.
- _____, _____, & _____. With an introduction by H. Luther. 1968. Desmids from Sierra Leone, tropical West Africa. *Acta Bot. Fennica* 78. 41 pp. Grunow, A. 1915-1916. *Additamenta ad cognitionem Sargassorum*. *Verhandl. Kaiserlich-Königlichen Zool.-Bot. Gesellsch. Wien* 65: 329-448; 66: 1-48, 136- 185.
- Lind, E., & H. Croasdale. 1966. Variation in the desmid *Staurastrum sebaldi* var. *arnatum*. *J. Phycol.* 2: 111- 116.
- Prescott, G. W., C. E. de M. Bicudo, & W. Vinyard. 1982. A synopsis of North American desmids. Part II. Desmidiaceae: Placodermae. Section 4. University of Nebraska Press, Lincoln and London. vii + 700 pp.
- _____ & H. Croasdale. 1937. New or noteworthy fresh water algae of Massachusetts. *Trans. Amer. Micros. Soc.* 56: 269-281.
- _____, & _____. 1942. The algae of New England II. Additions to the freshwater algae flora of Massachusetts. *Amer. Midland Naturalist* 27: 662-676.
- _____, _____, & W. Vinyard. 1972. North American Flora. Desmidiales. Part 1 Saccodermae, Mesotaeniaceae. *North American Flora*, series II, 6: 1-84.
- _____, _____ & _____. 1975. A synopsis of North American desmids. Part II. Desmidiaceae: Placodermae. Section 1. University of Nebraska Press, Lincoln. 275 pp.
- _____, _____, & _____. 1977. A synopsis of North American desmids. Part II. Desmidiaceae: Placodermae. Section 2. University of Nebraska Press, Lincoln and London. vii + 411 pp.
- _____, _____, _____, & C. E. de M. Bicudo. 1981. A synopsis of North American desmids. Part II. Desmidiaceae: Placodermae. Section 3. University of Nebraska Press, Lincoln and London. vii + 720 pp.
- Rogick, N., & H. Croasdale. 1949. Studies on marine Bryozoa III. Woods Hole region Bryozoa associated with algae. *Biol. Bull.* 96: 32-69.
- Scott, A. M., R. Grönblad, & H. Croasdale. With an introduction by H. Sioli. 1965. Desmids from the Amazon Basin, Brazil, collected by Dr. H. Sioli. *Acta Botanica Fennica* 69. 94 pp.

- Stearn, W. T. 1966. *Botanical Latin. History, grammar, syntax, terminology and vocabulary*. Thomas Nelson and Sons, Ltd., London. xiv + 566 pp.
- Stein, J. R. 1987a. Croasdale Fellowship. Phycological Newsletter 23(3); 1.
- _____. 1987b. Hannah T. Croasdale. Phycological Newsletter 23(3): 1-2.

Michael J. Wynne
University of Michigan