

Long Island Botanical Society

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The Quarterly Newsletter

Summer 2012

A recently described species of *Xyris* (Xyridaceae) from Long Island, based on an historic herbarium specimen

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Xyris (Xyridaceae) is a genus of about 400 species distributed mostly throughout the tropics and subtropics but also with some species occurring in temperate areas of the Americas, Asia, and Australia. Only about 28 species of "yellow-eyed grasses" (7% of the genus) occur north of Mexico. Species of Xyris are adapted to moist or wet, nutrient-poor, acidic, peat or sand soils, and habitats with little or no canopy. In North America Xyris species are most common in habitats of the Atlantic and Gulf Coastal Plains, such as pine savannas ("flatwoods"), sandy seeps, pond margins, bogs, and roadside ditches.

Xyris plants in the flora of the New York metropolitan area have short stems and long peduncles with a characteristic bracteate spike. The 3-merous flowers have bright yellow petals (only a few populations exhibit white petals) and showy staminodia with tufts

of beaded (moniliform) hairs. In the field *Xyris* plants are often overlooked amongst other graminoid and herbaceous plants because their flowers last only a few hours, often withering by noon. Species are delimited with characters that require magnification to be observed, such as sepal and seed coat ornamentation. Thus, as with true grasses (Poaceae)

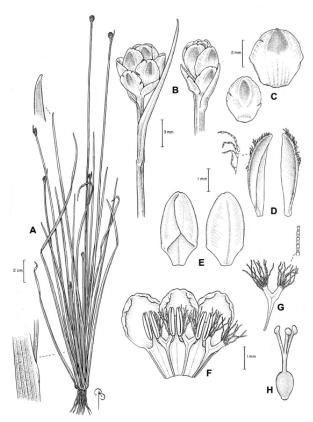


Figure 1. Original illustration of *Xyris bracteicaulis* drawn by Bobbi Angell (Drawn from *E. P. Bicknell* 216 (NY). Reprinted with permission from *Harvard Papers in Botany*).

and other graminoids (sedges and rushes) some people prefer not to collect *Xyris*, and the genus may be under-represented in herbaria.

While studying and curating Xyris in the New York Botanical Garden (NYBG) herbarium, I came across a specimen (E. P. Bicknell 216) with the epithet bracticulosus (from the Latin bracteola, the diminutive of bract, and the adjectival suffix -osus meaning abundance) with an indication that it represented a new species ("sp. n." for the Latin species novum). The specimen was collected from Lake Ronkonkoma in 1908 by Eugene Pintard Bicknell (1859-1925), an amateur botanist from Long Island. According to his field books in the archive of the LuEster Mertz Library (NYBG), Bicknell principally collected plant specimens on Long Island, Bronx and Westchester counties of New York, and on Nantucket and Martha's Vineyard islands in Massachusetts. A financier by profession, Bicknell also had a

strong interest in ornithology (Barnhart 1925a, b). His scientific accomplishments include nearly sixty publications and the description of over 180 plant taxa. He also was a founder of the Linnaean Society of New York, and was a member of the Board of Managers of The New York Botanical Garden (Barnhart 1925b). See the sidebar on page 23.

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Long Island Botanical Society

Founded: 1986 • Incorporated: 1989

The Long Island Botanical Society is dedicated to the promotion of field botany and a greater understanding of the plants that grow wild on Long Island, New York.

Visit the Society's Web site www.libotanical.org

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Society News

Editor's Note: LIBS members have been asking about the LIBS/BBG Plant Database. To answer these questions and provide a bit of history, Andy Greller and Eric Lamont contributed the following essay.

What is the LIBS/BBG Plant Database? Simple question, complicated answer. Basically, the database is the culmination of 25 years of work by the LIBS Flora Committee on production of an *Atlas of the Vascular Plants of Long Island, New York*, Edition 1. A printed version of the *Atlas* is slated for publication in 2013, and an electronic version will be available on the website. The *Atlas* includes approximately 2000 dot maps showing the distributions of all native and non-native plants spontaneously occurring and persisting on Long Island. Each dot on a map corresponds to an entry in the LIBS/BBG Plant Database that includes information about the occurrence such as locality, habitat, date, voucher collection (if available), collector (if known), etc. But why LIBS *and* BBG (Brooklyn Botanic Garden)? Why not simply LIBS? As we said, it's complicated.

In the beginning . . . Beginning in the late 1980s, the LIBS Flora Committee met monthly at members' homes and later at Plant Fields Arboretum. Species occurrences were discussed and recorded by hand, and everyone had fun often late into the night. The committee was chaired for the first few years by Skip Blanchard and later by Steve Clemants. Around 1996, Steve accepted responsibility for maintaining the vast LIBS database and arranged to house all the records at BBG, his place of employment.

In the early 2000s, LIBS offered a grant to BBG for the production of a hard copy of *Draft Atlas of the Vascular Plants of Long Island, New York*, exclusively based on the LIBS database that had been compiled during the previous 15 years. Linda Marschner and other BBG staff worked on this project under Steve's guidance, and with major input from LIBS committee members the *Draft Atlas* was printed in 2005. Approximately 20 copies were distributed to local botanists, asking for feedback.

Major setback . . . In 2008, tragedy struck with the sudden, unexpected death of Steve Clemants. Meanwhile Skip Blanchard had retired to Florida a year and a half earlier. Thus, in January 2009 the LIBS Flora Committee was without a chair. Nevertheless, the committee did manage to continue to make progress. The reviewers of the *Draft Atlas* returned their comments, and several thousand new data entries were then hand-recorded by Skip into a hard-copy of the database. Also at this time, LIBS contacted BBG to obtain the electronic database that Steve had used to produce the *Draft Atlas*. Unfortunately, it was concluded that the LIBS database had been incorporated into the larger BBG database used for the New York Metropolitan Flora Project. Basically, this meant that LIBS had no way to update the *Draft Atlas* and produce a final atlas.

To the rescue . . . Fortunately, Gerry Moore at BBG came to the rescue and served LIBS in 2010 as interim chair of the Flora Committee. During this year, a plan was devised whereby BBG would help LIBS retrieve its electronic database. Eric Lamont and Andy Greller agreed to serve as co-chairs; their first act was to ask the LIBS executive board to release funds for a grad student to help re-construct the electronic database. Adam Negrin, a Ph.D. botany student at CUNY/NYBG, was chosen for the job. Throughout 2011 he worked with Steve Glenn at BBG to produce the LIBS/BBG Plant Database. The Flora Committee is pleased with the result and is in the final stages of producing the first edition of the *Atlas*. Hopefully in about a year, LIBS will be taking orders.

(Xyris cont. from cover)

The specimen immediately caught my attention because it has bracts on the peduncle, a condition previously unknown in Xyris. A search of the International Plant Names Index (IPNI 2008) revealed that Bicknell had not published the species in accordance with the rules of the International Code of Botanical Nomenclature (ICBN; McNeill et al. 2006) using either the epithet on the specimen label or another epithet. Furthermore, the species name did not appear to have been published by someone else as there is no mention of this Xyris in taxonomic treatments (e.g., Kral 1966) or regional floras (Gleason and Cronquist 1991; Kral 2000). To determine if I agreed with Bicknell's interpretation that this collection represents a new species, I sought duplicate specimens to assess the morphological variation and compare it to known species of Xyris. I contacted the staff of herbaria listed as having E. P. Bicknell duplicates in *Index Herbariorum* (Thiers, continuously updated) and in the Harvard University Herbaria Botanists database (President and Fellows of Harvard College 2010), as well as other likely herbaria in the northeast, but unfortunately additional material was not located.

I also tried to "rediscover" this new Xyris in the field. Lake Ronkonkoma is a kettle lake located on the Ronkonkoma Moraine, one of the two moraines on Long Island (Fenneman 1938; Fleming 1935). Although it seemed unlikely that suitable habitat would still exist around Lake Ronkonkoma, in the fall of 2009 I searched for Xyris without success. Excited about the prospect of a new species from Long Island, Eric Lamont (President of the Long Island Botanical Society) kindly offered to help me try to relocate it. In September 2010 we again searched around Lake Ronkonkoma and then traveled further east to some less disturbed coastal plain ponds (Figure 2). Although we did not find plants of a Xyris with bracts on the peduncle, we did find three other Xyris species. At the margin of a pond we found X. difformis Chapm. var. difformis and X. smalliana Nash. Here Xyris smalliana and other species, such as the sedges Eleocharis robbinsii (spikerush) and Rhynchospora inundata (drowned beakrush) were occurring in bands at different water depths. We also found a few plants of X. torta Small in a recently drained pond in exposed areas in dense leatherleaf (Chamaedaphne calyculata).

Returning to the lab, I began to work with the herbarium material originally collected by Bicknell. I rehydrated and dissected some flowers and made detailed comparisons with other herbarium specimens, concluding that Bicknell's specimen did indeed represent a new species. I discussed the salient features of the herbarium specimen with NYBG's botanical illustrator, Bobbi Angell, and I photographed some of the dissected material using a stereo microscope for Bobbi's use in preparing the beautiful scientific illustration pictured in Figure 1. I published the new species as *Xyris bracteicaulis* E.P. Bicknell ex L.M. Campb. along with the illustration and the required Latin diagnosis that a colleague kindly translated

(Cont. on page 24)

Eugene Pintard Bicknell

by Lisa M. Campbell

By all accounts, Eugene Pintard Bicknell (d. 1925) was a remarkable man who enjoyed a life rich with natural history. Born in 1859, he lived in Riverdale, New York City, and in later years in Hewlett, Long Island (Barnhart 1925; Crosby 1926). His main natural history interests were ornithology and botany, which he pursued when not occupied by his profession as a banker. Bicknell did not attend college, but began publishing at the age of 16, and at the age of 18 his first paper in a scientific journal appeared, entitled *Evidences of the Carolinian fauna in the lower Hudson Valley* (Bicknell 1878) (Barnhart 1925; Crosby 1926). The subjects of Bicknell's papers include new species descriptions (e.g., 1898), regional faunas and floras (e.g., 1882), new distribution records, reproductive biology (e.g., 1880, 1885), and bird migrations (e.g., 1917).



E.P. Bicknell (between 1910 and 1915) Library of Congress Prints and Photographs Division Washington, D.C. 20540 http://www.loc.gov/pictures/ resource/ggbain.17498/

Field books housed in the New York Botanical Garden's (NYBG) LuEsther Mertz Library, document Bicknell's herbarium specimen collections from 1893–1901. He seems to have been a keen observer, collecting a hepatica (*H. triloba* Chaix = *H. americana* (DC.) Ker Gawl.) with a "fresh perfect flower" on December 2, 1900 (Collector's field notebooks Vol. 118). The field books sometimes include charming glimpses of Bicknell's activities: "Rode to Fort Schuyler with E. B. [Evelyn, his brother]. Noticed nothing of special interest on the way except at Westchester Creek where the salt marsh

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(Xyris cont. from page 23)



Figure 2. The author searching for species of *Xyris* at coastal plain ponds in Suffolk County. Photo by Eric Lamont.

for me (Campbell 2011; Note: Latin has no longer been mandatory since Jan 2012). The epithet *bracteicaulis* refers to the bracts on the peduncle. The species authorship indicates that Bicknell originally considered the specimen to represent a new species and Campbell validly published it according to the ICBN.

What happened to Xyris bracteicaulis on Long Island? The Pine Barrens of both New Jersey and New York are well known for harboring rare species (e.g., curly grass [Schizaea pusilla]), or species rare in the region (short-beaked beakrush [Rhynchospora nitens]), and to be the northern (e.g., turkey beard [Xerophyllum asphodeloides]) or southern distribution limit of species (e.g., Long's bulrush [Scirpus longii]). It is interesting to note that Xyris caroliniana Walter, X. fimbriata Elliott, and X. jupicai Rich. are reported from the New Jersey Pine Barrens in addition to the Xyris that also occur on Long Island (X. difformis var. difformis, X. smalliana, and X. torta). The dynamic hydrology of Long Island coastal plain ponds greatly affects the composition of species and substrates along the shores (Hanks 1985; Schneider 1994; Zaremba and Lamont 1993). Human and natural disturbances may affect seed banks, and may result in common species displacing rare species (Keddy and Reznicek 1982; Wisheu and Keddy 1991). Also, the effect of fire on coastal plain pondshore flora is unknown (Zaremba and Lamont 1993) and species of Xyris, even occurring in the same habitat, are known to respond differently to fire (Keith and Carrie 2002). Thus far known only from the holotype, Xyris bracteicaulis would be classified using the New York Natural Heritage Program criteria as "SH," historical with no known sites in the State (Young 2010). Following is a key to identify Xyris found on Long Island. Of course, I'd appreciate knowing about any interesting finds!

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(Bicknell cont. from page 23)

flora was well represented" (Vol. 118). Bicknell described nearly 190 plant species new to science, including six from Long Island: a blue eyed grass (Sisyrinchium graminoides E.P. Bicknell = S. angustifolium Mill.), several violets (Viola domestica E.P. Bicknell, V. lavandulacea E.P. Bicknell, V. notabilis E.P. Bicknell, V. pectinata E. P. Bicknell), and a goldenrod (Solidago aestivalis E.P. Bicknell = S. rugosa var. sphagnophila C. Graves). (Synonymy follows Gleason and Cronquist 1991; Goldblatt 2002; Semple and Cook 2006.) To see images of some herbarium specimens collected by Bicknell search the NYBG's Virtual Herbarium (http://sciweb.nybg.org/science2/vii2.asp.html).

As evidenced by his publications, Bicknell's dedication to botany eventually eclipsed that of ornithology, and culminated in his *The ferns and flowering plants of Nantucket* (1908–1919). This flora recognized 1,103 taxa, excluding putative hybrids (Bicknell 1919), and was published over the course of eleven years as 20 installments in the Bulletin of the Torrey Botanical Club. The flora included synonymy, comparative commentary, and phytogeographic and phenological information.

The skills Bicknell applied to the study of natural history were highly regarded amongst his peers (Barnhart 1925; Crosby 1926). Crosby (1926: 144) notes that unlike most of his contemporary ornithologists Bicknell "used the field glass more than the gun." Twelve plant species and Bicknell's thrush (Catharus bicknelli) were named in his honor (Crosby 1926; see International Plant Names Index 2005). In 1878, Bicknell and other local naturalists founded The Linnaean Society of New York (The Linnaean Society of New York 2012), for which he served as President (Knox 1918). He was also a member of the American Association for the Advancement of Science. the Botanical Society of America, The New York Botanical Garden, the Philadelphia Botanical Club, the Torrey Botanical Club, and a founding member of the American Ornithologist's Union. Bicknell was elected to the Corporation of The New York Botanical Garden, and served on its Executive Committee and as Scientific Director for ten years (Barnhart 1925; Crosby 1926).

In addition to the scientific organizations that Bicknell participated in, he belonged to numerous other societies and organizations, reflecting his interesting heritage. Both his maternal and paternal families arrived in the United States in the mid-1600's. Bicknell's ancestry includes a Lord of the Manor who fought in the battle of Hastings (1066; Barnhart 1925; Knox 1918), the first Colonial Governor of Rhode Island, a founder of Yale College, a founder of the New York Historical Society, a Rector of Trinity Church (NY), and a benefactor of the French Church of New York. Bicknell was a member of the Huguenot Society, the St. Nicholas Society, the Society of Colonial Wars, the Sons of the Revolution, and a Vestryman of Trinity Church of Hewlett, NY (Barnhart 1925; Crosby 1926).

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(Xyris cont. from page 24)

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Key to the species of Xyris on Long Island

- 1. Lateral sepals fimbriate or ciliate
- 1. Lateral sepals lacerate

FIELD TRIPS

JULY 14, 2012 (SATURDAY) 9 AM (NOTE EARLY START TIME)

Montauk Point for seaweeds, Suffolk Co., NY Trip leader: Larry B. Liddle, Ph.D.

We will meet an hour before low tide for a little talk in the parking lot and to walk the tide out. We will walk in the intertidal (very rough walking) pools below the lighthouse and then walk north on land about 150m to a "cove" to see the drift, which also could involve wading but on sandy bottom. There will still be plenty to see for those not wanting to risk wading and walking on slippery rocks.

Directions: Meet at the Montauk Point parking lot. Go East on I-495 to Exit 70, south on County Road 111 to Route 27 and east on NY Route 27 to Montauk Point. Please note there is an \$8 parking fee.

SEPTEMBER 8, 2012 (SATURDAY) 10 AM (NOTE EARLY START TIME)

Hempstead Plains, Uniondale, Nassau Co., NY Trip Leader: Betsy Gulotta Cell: (516) 317-7267 (Co-listed with the Torrey Botanical Society)

Over 200 species of native and non-native flowering plants have been identified at the 19-acre Hempstead Plains at Nassau Community College. The native grasses characterizing the tall-grass prairie are particularly beautiful this time of year. The walk takes about an hour. Bring water and sturdy shoes.

Directions: From either Meadowbrook Parkway Exit M4 or Merrick Ave. north of Rt. 24 Hempstead Turnpike, take Charles Lindbergh Blvd. west. Turn at first right into East Parking of Nassau Community College. Go to first intersection. See parking along fence and sign for Hempstead Plains.

SEPTEMBER 15, 2012 (SATURDAY) 10 AM

Goldenrod Workshop, Northville, Suffolk Co., NY Trip leader: Eric Lamont, Ph.D. (Co-listed with the Torrey Botanical Society and New York Flora Association)

The purpose of this free workshop is to teach participants how to identify goldenrods in the field. The workshop will begin with an introduction by Eric who will explain how to use a key to the goldenrods of Long Island. Participants will key out a few species together and then try their skills keying out live specimens on their own or with a partner. We will then ID all of the species together, check our determinations, and explain where participants might have gone wrong in the key. The workshop will end with a walk through North Fork Preserve,

Northville. (Purchased in 2011 by Suffolk County and Riverhead Township, these 300+ acres were the largest unprotected tract of open space remaining in Suffolk County.)

Registration is required: You must be a member of one of the sponsoring organizations to register and the workshop will be limited to 24 participants. Please email Eric to register and for directions [Eric Lamont: elamont@optonline.net]. It's important that participants be on time for the intro lecture, but then people can leave or stay as long as desired; the day will end in the afternoon, maybe 3-4 pm. Bring water, lunch, and insect repellent. Dress for potentially moist or muddy habitats in North Fork Preserve.

SEPTEMBER 22, 2012 (SATURDAY) 10 AM

Peconic Dunes County Park, Southold, Suffolk Co., NY Trip Leader: Sarah Marcus

Peconic Dunes is a 34-acre piece of property that extends from the Long Island Sound to the shores of a kettle lake. It is home to a great variety of ecosystems including deciduous wetlands, coniferous dunes, inter-dunal swales and a sandy shoreline. Over 190 plant species have been identified.

Directions: From the LIE exit 71, take Edwards Ave. north for about 3.5 miles. Turn right onto Sound Ave. and travel 11.4 miles. Stay left on County Rd 48 and continue for another 6.5 miles to the BP Gas Station and then get into the left lane. Proceed to the next intersection and turn left at the traffic light onto Mill Lane. (There are 2 Mill Lanes on Rt. 48. Make sure you have passed the BP gas station.) Take the first right turn to go east on Soundview Avenue. The park will be approximately 1 mile ahead on the left.

SEPTEMBER 29, 2012 (SATURDAY) 10AM

Hither Hills State Park, Suffolk Co., NY (Co-listed with Torrey Botanical Society and Long Island Native Plant Initiative)
Trip leaders: Uli Lorimer, Brooklyn Botanic Garden Email: ulilorimer@bbg.org and Polly Weigand, Suffolk County Soil and Water Conservation District Email: Polly.Weigand@suffolkcountyny.gov

We will explore coastal dune grassland habitat. Please come prepared with proper shoes and clothing for hiking in sand, there may be some wet areas as well. Bring plenty of water, insect repellent, and a lunch.

Directions: Please meet at the end of Napeague Harbor Rd, a left turn from Highway 27 headed east towards Montauk. Park along the roadside.

(Bicknell cont. from page 24)

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FIELD TRIPS cont'd.

OCTOBER 6, 2012 (SATURDAY) 10AM

Muttontown Preserve, East Norwich, Nassau Co., NY Trip Leaders: Al and Lois Lindberg

This preserve comprises 570 acres of fields and woodlands amid the rolling hills and kettlehole ponds of morainal northern Nassau County. Goldenrods and asters are abundant in Muttontown's late successional fields and woodlands and will hopefully give us a good show on this early Autumn walk. The preserve is operated by the Nassau County Department of Parks, Recreation and Museums and is open from 9:30 to 4:30 daily. To find out more information about the Preserve and its programming call 516-571-8500.

Directions: Please meet at preserve building at the main entrance. Take LIE ext 41 north following the fork to the right to Route 106. Go north on Route 106 for about 3.75 miles and make a left onto Route 25A. Make another left in 0.1 mile onto Muttontown Lane. The entrance is straight ahead.

OCTOBER 27, 2012 (SATURDAY) 10AM

Alley Pond Environmental Center (APEC) and Oakland Lake Park, Douglaston, Queens Co., NY Trip leaders: Andrew Greller Ph.D. Email: agreller2@optonline.net and Aline Euler Ed.D.

Autumn wildflowers and fall colors. Bring lunch and water. Wet walking is optional.

Directions: Meet at the APEC parking lot, 100 yards E of Cross Island Parkway on S side of Northern Boulevard. If using a map search, the address is 228-06 Northern Boulevard, Douglaston, NY 11362.



LIBS notes, with sorrow, the recent passing of two long-time friends:

Vince Puglisi

LIBS charter member and Past President June 16, 2012.

Patricia Kelly June 1, 2012.

They will be missed.

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UPCOMING PROGRAMS

September 11, 2012* Tuesday, 7:30 PM Adam Negrin: "Long Island Flora Atlas-**Developmental Process and Potential for** Future Research." The presentation will cover the processes involved in making the LI Flora Atlas. This will give credit to the long term efforts of botanists to properly identify and voucher plant species on Long Island, review the assembly of the plant database, describe mapmaking via ESRI ArcGIS software, list the protocol and labors of the committee review process, and show the final work involved in remaking the maps and organizing content for publication and future research. The potential for testing a wide variety of historical, ecological, and biogeographical hypotheses with modern statistical software will be described. Adam is currently a PhD candidate at the CUNY Graduate Center, focusing on natural plant products research in a laboratory at Lehman College. A Long Island native, he was originally trained in botany, plant taxonomy, and ecology. His current work is based on seeking answers to ethnobotanical questions using quantitative geographic, phytochemical, and systematics-based methods.

> Location: Bill Paterson Nature Center, Muttontown Preserve, East Norwich

October 9, 2012* Tuesday, 7:30 PM "Invasive Species Early Steve Young: **Detection and Rapid Response: How LIBS** Members Can Help." Once an invasive species has established itself on the island, early detection and eradication is the most effective way to reduce this ever-present threat to our native plants and ecosystems. This presentation will explain how LIBS members have been, and can be, an effective and important part of the effort coordinated by the Long Island Invasive Species Management Area (LIISMA). Some of the low-abundance species to be aware of will be shown. Steve is the chief botanist of the New York Natural Heritage Program and the coordinator of LIISMA. He has spent 20 years surveying the rare plants of New York State and is now focused on the threat of invasive species on Long Island.

Location: Museum of Long Island Natural Sciences, Earth and Space Science Building, Gil Hanson Room (Room 123), Stony Brook University, Stony Brook

* Refreshments and informal talk begin at 7:30 p.m. Formal meeting starts at 8:00 p.m. Directions to Muttontown or Stony Brook: 516-354-6506