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**Studies on the Lichen-Forming Fungi (Lichens) of the
Big Thicket National Preserve and Surrounding Region**

Report on Activities — Dec. 2006 to present

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History

My initial work in the Big Thicket area took place while I was a faculty member in the Biology Department at Texas A&M University from 1975-1979. During this time, with funding from the National Parks Service, I began collecting and documenting the lichens of the BTNP and adjacent areas. Collections were deposited in the TAMU herbarium at Texas A&M. These lichen collections, many years later, were transferred to the University of Nebraska at Omaha Lichen Herbarium (OMA) where they remain today. All specimen records at OMA have been databased and are currently accessible online through the Consortium of North American Lichen Herbaria at <http://symbiota.org/nalichens/>.

In the early 1981 I also worked with Dr. Virginia Gordy (Houston) on a baseline lichen survey with reference to air pollution applications. She continued with a follow-up survey of our original plots a few years later (1986).

Recent Big Thicket Lichen Activity

Field Collecting:

In 2006 with financial help (\$6,000) from the Big Thicket Association, I again turned attention to the work in the area. An initial field collecting trip was carried out by two of my graduate students (Todd Widhelm and Robert Harms) in December of that year making collections at 10 sites in various units of the BTNP. These collections are housed and documented here at UNO, and we continue to identify material from this initial and subsequent field excursions.

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Field collections were made during March 2007 with the assistance of two undergraduate students from UNO (Rebecca Moshman and Paula Benevides). Several additional BTNP sites were investigated, including the new Canyonlands Unit.

Additional field work was done in August 2008 with an undergraduate student Lacey LeGrand. These collections formed part of the material used for her undergraduate honors thesis at the University of Nebraska at Omaha, completed in December 2008.

Lacey LeGrand and I returned for additional field work in the area in July 2010, concentrating our collecting efforts in nearby National Forest areas surrounding the BTNP. These collections are now part of her M.S. thesis project on the macrolichens of the BTNP and environs (expected completion date December 2011). Additional collections were made during the recent (May 2011) workshop with Hardin-Simmons students.

Meeting Presentation:

A poster was presented at the annual meeting of the American Bryological and Lichenological Society annual meeting at Snowbird, Utah, July 2009. A copy of this poster is on display at the Big Thicket Association Field Station, Saratoga, Texas.

Teaching Workshops:

A "Lichen Identification Workshop" was conducted at the Saratoga Field Station for several days in January 2008 with the assistance of my graduate student Todd Widhelm.

"Liking Those Lichens" (a 3-day workshop) was conducted with the help of my former graduate student Robert Harms at the Saratoga Field Station from April 24-26, 2010.

Presentations, field work, and laboratory identification work at the Saratoga Field Station for Dr. Rick Hammer's class from Hardin-Simmons University, Abilene, Texas, May 23-24, 2011.

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The Cynthia Troxell Collections:

In the fall, 2010 I was received an email from Daniel Murphy of Boulder, Colorado, informing me of the death of his wife, Cynthia Troxell. He had found many boxes of lichen specimens from Louisiana, Texas, Minnesota and Colorado which he knew had been associated with her work in the 1970s for her undergraduate and graduate studies. He asked if I (and Larry St. Clair of Brigham Young University) would be interested in these specimens. We both expressed interest in her collections and arranged over the next couple of months to have the specimens and her notes and collection books sent to us – Minnesota, Louisiana and Texas lichens to me at UNO and the Colorado material to Larry St. Clair at BYU.

Cynthia was an undergraduate student at Louisiana State University working with Dr. Shirley Tucker in the mid 1970s, and I had met her on at least one occasion while working in the BTNP. As I discovered, her undergraduate thesis at LSU concerned lichens from the BTNP area, and the specimens Daniel had sent from Colorado were the collections which formed the basis for her study. The Colorado collections were part of her M.A. work at the University of Colorado-Boulder under Dr. Sam Shushan.

By piecing together specimen packet notes, collection numbers, and data from her field notebooks, I have been able to create new, complete labels for over 400 SE Texas specimens and to prepare the material for identification/verification and deposit into the UNO Lichen Herbarium. My M.S. student Lacey LeGrand is incorporating these collections along with our recent field specimens as part of her current thesis project. Several of these collections appear to be rare early records for SE Texas.

Miscellaneous Results

New additions to the lichen flora of Texas:

Two species (so far), *Bulbothrix isidiza* (Nyl.) Hale and *Pseudoparmelia uleana* (Müll. Arg.) Elix & T. H. Nash are first reports for the state of Texas. Many of the collections represent new county records.

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**Data on Species currently known from the BTNP
and adjacent areas (BTNP Counties):**

The UNO Lichen Herbarium (OMA) currently (as of 6/14/11) has **1089** databased lichen specimen records representing **137** species in **65** genera (see Excel spreadsheet summary BTNP Counties List.xls).

**Data on Species currently known catalogued from official UNITS of the
Big Thicket National Preserve:**

The UNO Lichen Herbarium (OMA) currently (as of 6/14/11) has **869** databased lichen specimens representing **123** species in **59** genera (see Excel spreadsheet summary BTNP Unites List.xls).