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Dr. Larissa Vasilyeva

Big Thicket Pyrenomycetous Fungi and Work of Russian Researcher

Pyrenomycetous fungi inhabit living and dead tissues of vascular plants and are very often found on bark and wood of trees. They are the organisms that serve the function of popping off the bark so the wood on the forest floor can decay. Each group of fungal species prefers wood that has decayed for a different amount of time. Some prefer recently dead trees. Other fungal species go for very rotten wood.

Dr. Larissa Vasilyeva, Principal Researcher, Cryptogamic Laboratory Institute of Biology and Soil Science of the Far East Branch of the Russian Academy of Sciences in Vladivostok, Russia has found the study of pyrenomycetous fungi fascinating. She traveled to the other side of the globe, more specifically the Big Thicket of Texas, to research. Dr. Vasilyeva is a member of the Taxonomic Working Inventory Group (TWIG) of the Thicket of Diversity All Taxa Biodiversity Inventory (ToD ATBI) coordinated through a partnership between the Big Thicket National Preserve and the Big Thicket Association.

The study of pyrenomycetous fungi has been limited. Two papers under the same title *The Fungi of Texas* by M.C. Cooke in 1879 and 1880 were published. 33 species of the fungi were reported, mostly in the Houston vicinity. 100 years later, only three were found in Texas as noted by E.P. Van Arsdel in 1972.

Through the ToD ATBI an initial survey was conducted in the Big Thicket National Preserve in 2007 and a second survey in 2009. Vasilyeva's Annual Report for Permit filed in 2010 documents findings. At present 65 species of Pyrenomycetous fungi have been identified. Other findings include rare species such as *Rosellinia glandiformis* found in Turkey Creek Unit and *Rosellinia langloisii* in Lance Rosier Unit and *Jumillera viridis* found in Canyonlands Unit of the Big Thicket National Preserve. The first record in the USA of *Hypoxylon lividipigmentum* was found on the Kirby Nature Trail outside Kountze. Another first for USA was *Biscogniauxia arima* found in the Lance Rosier Unit in Saratoga. Previously, both were found in Mexico.

Dr. Larissa Vasilyeva has identified some specimens collected by Dr David Lewis in other parts of Texas. The discovery of *Biscogniauxia citrifomis* suggested a peculiar biogeographical pattern of distribution that involves the Caribbean Sea, the coast of Mexico and southern US as well as some parts of the Atlantic coasts in South America and Africa. The species was found in Nigeria and French Guiana. Dr. David Lewis discovered it at Lady Bird Johnson Municipal Park in Fredericksburg, Texas.

The international researcher's work is ongoing. A third survey was conducted in March 2011. Once analysis is completed selected vouchers will be deposited at the Tracy Herbarium at Texas A&M University. Mona Halvorsen, the Director for the Thicket of Diversity, will submit findings to the US Park Service database.

Pyrenomycetous fungi play an important role in decomposition as they facilitate the return of nutrients to the soil. Research conducted by experts such as Dr. Vasilyeva will contribute to knowledge of diversity within this species.



Jumillera viridis, found in Canyonlands Unit of Big Thicket National Preserve



**Thicket of Diversity: 6 new species listed
for Pyrenomycetous Fungi—one was named
in honor of Lance Rosier**

Pyrenomycetous Fungi

New species of (Ascomycota) Pyrenomycetous fungi discovered in Big Thicket region by Larissa Vasilyeva, PhD; Far East Branch of the Russian Academy of Sciences

Diatrype caryae

Authors: Lar.N. Vassiljeva & S.L. Stephenson, Mycotaxon 107: 309 (2009)

Host-Substratum/Locality: On dead branches of *Carya tomentosa* (mockernut hickory): Texas



Diatrype ilicina

Authors: Lar.N. Vassiljeva & S.L. Stephenson, Mycotaxon 107: 311 (2009)

Host-Substratum/Locality: On dead branches of *Ilex vomitoria* (Yaupon): Texas



Neochaetosphaerella thaxteriospora

Authors: Lar.N. Vassiljeva, S.L. Stephenson & Chernyshev, Fungal Diversity 52(1): 192 (2011)

NO PHOTO AVAILABLE

Tympanopsis texensis

Authors: Lar.N. Vassiljeva, S.L. Stephenson & Chernyshev, Fungal Diversity 52(1): 191-196 (2011)

NO PHOTO AVAILABLE

Hypoxylon rosieri

(Named in Honor of Lance Rosier)

Authors: J.D. Rogers & Lar.N. Vassiljeva, Sydowia 60(2): 282 (2008)

NO PHOTO AVAILABLE

Camillea texensis

Authors: J.D. Rogers & Lar.N. Vassiljeva, Sydowia 60(2): 280 (2008)

NO PHOTO AVAILABLE