PROJECT TITLE: Pyrenomycetous fungi (Ascomycota) of the Big Thicket National Preserve

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OVERVIEW: Pyrenomycetous fungi are the large group of the phylum Ascomycota. They grow on the surface of dead branches or trunks of deciduous trees or between the bark and the wood. For the ecosystem, these fungi may serve the function of popping off the bark so the wood on the forest floor can decay, facilitating the return of nutrients to the soil. Each group of these fungal species prefers wood that has decayed for a different amount of time. For example, diaporthalean fungi inhabit rather fresh branches of recently dead trees, while xylariaceous fungi prefer logs that have laid on the forest floor for a longer time. Yet other species like very rotten wood. The season is also of importance. The diaporthalean fungi are abundant in spring, xylariaceous fungi appear in August-September, etc.

INTRODUCTION

In coordination with the All Taxa Biodiversity Inventory (ATBI) at the Big Thicket National Preserve (southeast Texas), an initial survey of pyrenomycetous fungi was conducted in August 2-13, 2007, the second survey - in October 2-13, 2009.

Objectives included: to make a documentation of the diversity of species on different kinds of substrate (dead branches and trunks of trees and shrubs) in a variety of vegetation types.

METHODS

The searches for fruiting bodies were done in 8 preserve units: Beaumont, Beech Creek, Big Sandy Creek, Canyonland, Jack Gore Baygall, Lance Rosier, Loblolly and Turkey Creek. The procedure of sampling is traditional and comes to taking pieces of dead branches with fruit bodies of pyrenomycetes that are air dried after that. 120 specimens were collected in 2009.

RESULTS AND DISCUSSION

The area was rather poorly investigated. Since the publication of two papers under the same title "The Fungi of Texas" (Cooke, 1879, 1880) where 33 species of pyrenomycetous fungi were reported (mostly from Houston vicinity), only three species [***Endothia gyrosa*** (Schwein. : Fr.) Fr., ***Biscogniauxia atropunctata*** (Schwein. : Fr.) Pouzar (as Hypoxylon atropunctatum) and ***Biscogniauxia mediterranea*** (De Not.) Kuntze (as Hypoxylon mediterraneum)] found in Texas were mentioned almost a century later (Van Arsdel, 1972).

Very rare species, such as ***Rosellinia glandiformis*** Ellis et Everh. and ***R. langloisii*** Ellis et Everh., described from the neighboring Louisiana long ago, were found in the Big Thicket for the second time in 2007. ***Hypoxylon lividipigmentum*** San Martín, Y.-M. Ju & J. D. Rogers was the first record for USA (it was known from Mexico before). ***H. ochraceum*** Henn. known in Florida was also found in the Big Thicket. Several new species were described from this territory: ***Camillea texensis*** J.D. Rogers & Lar.N. Vassiljeva, ***Diatrype caryae*** Lar.N. Vassiljeva & S.L. Stephenson, ***D. ilicina*** Lar.N. Vassiljeva & S.L. Stephenson, ***Hypoxylon rosieri*** J.D. Rogers & Lar.N. Vassiljeva (Rogers et al., 2008; Vasilyeva & Stephenson, 2009). These examples showed the peculiar fungal complex of pyrenomycetous species in the southern states, and the second survey in 2009 supported that preliminary conclusion. Several species with areas in southern (or south-eastern) states were found, for example ***Biscogniauxia schweinitzii*** Y.-M. Ju & J. D. Rogers (Florida, Georgia, Kansas, North Carolina, South Carolina, now Texas), ***Camillea broomeiana*** (Berk. & Curt.) Laessoe, J.D. Rogers & Whalley (Florida, Georgia, Louisiana, South Carolina, now Texas), ***Hypocrea petersii*** Berk. & M.A. Curtis (Alabama, Louisiana, Tennessee, now Texas), ***Hypoxylon mulleri*** J.H. Mill. and ***H. rubigineoareolatum*** Rehm (both were known in Florida, now Texas), ***H. placentiforme*** Berk. & M.A. Curtis (Arkansas, Kansas, now Texas), ***Jumillera viridis*** (Theiss.) J.D. Rogers, Y.-M. Ju & F. San Martín (Louisiana, New Jersey, South Carolina, now Texas).

Even more interesting records are species newly found in USA. Thus, ***Biscogniauxia arima*** F. San Martín, Y.M. Ju et J.D. Rogers was only known from the type locality in Mexico before (Ju et al., 1998). ***Hypoxylon thouarsianum*** (Lév.) C.G. Lloyd var. ***macrosporum*** San Martín, Y.M. Ju & J.D. Rogers was also described from Mexico (Ju, Rogers, 1996) and found in Texas for the second time. ***Vivantia guadalupensis*** J.D. Rogers, Y.M. Ju et Cand. was also known from the type locality in Guadeloupe (Rogers et al., 1996). ***Biscogniauxia citriformis*** (Whalley, Hammamelev & Taligoola) Van der Gucht & Whalley was described from Nigeria and found later in French Guiana (now Texas). These examples suggest a very peculiar biogeographical pattern of

distribution that involves the basin of the Caribbean Sea, nearest costs of Mexico and southern United States, as well as some parts of Atlantic costs in South America and Africa.

At present 65 species of pyrenomycetous fungi are identified. Several new species will be described in near future. Ecological observations during two surveys in August and October show the differences in species composition. Thus, such a peculiar species with large stromata as ***Hypocrea petersii*** (see photo) was very frequent on logs of *Quercus* and *Fagus* in October, but was not found in August. Several species that are new records for USA were not collected either.

Hypocrea petersii

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APPENDIX: LIST OF SPECIES

Diatrypaceae

Cryptovalsa opaca (Cooke) Lar. N. Vassiljeva - on dead branches of *Ilex opaca* Aiton, Big Sandy Creek Unit (Beaver Slide Trail), 2.VIII.2007; Beech Creek Unit (Beech Woods Trail), 9.VIII.2007; Turkey Creek Unit (Kirby National Trail), 11.VIII.2007.

Note: This species was reported from Texas and Florida (Ellis & Everhart, 1892), and its type specimen is kept in the U. S. National Fungus Collection (BPI 579483). The type locality is simply indicated as Houston (coll. H. W. Ravenel).

Cryptovalsa prominens (E. Howe) Berl. - on dead branches of *Platanus occidentalis* L., Big Sandy Creek Unit (Beaver Slide Trail), 2.VIII.2007

Diatrype atlantica Lar.N. Vassiljeva - on dead *Quercus* sp., Big Sandy Creek Unit (Beaver Slide Trail), 2.VIII.2007; Loblolly Unit, 3.VIII.2007; Turkey Creek Unit (Turkey Creek Trail), 4.VIII.2007; Turkey Creek Unit (Kirby National Trail), 11.VIII.2007.

Diatrype decorticata (Pers. : Fr.) Rappaz - on dead branches of *Fagus grandifolia* Ehrh., Big Sandy Creek Unit (Beaver Slide Trail), 2.VIII.2007.

Diatrype ilicina Lar.N. Vassiljeva & S.L. Stephenson - on dead branch of *Ilex vomitoria* Aiton, Turkey Creek Unit (Turkey Creek Trail), 4.X.2009 (VLA P-2458)

Diatrype stigma (Hoffm. : Fr.) Fr. - on dead branches of *Quercus* sp., Loblolly Unit, 3.VIII.2007 (TAES); Lance Rosier Unit (Teel Road), 6.VIII.2007; Turkey Creek Unit (Kirby National Trail), 11.VIII.2007.

Diatrype tremellophora Ellis - on dead branches of *Magnolia virginiana* L., Turkey Creek Unit (Turkey Creek Trail), 4.X.2009.

Diatrype virescens (Schwein.) M.A. Curtis - on dead branches of *Fagus grandifolia* Ehrh., Turkey Creek Unit (Turkey Creek Trail), 4.X.2009 (TAES).

Eutypa spinosa (Pers. : Fr.) Tul. Et C. Tul. - on logs of *Fagus grandifolia* Ehrh., Turkey Creek Unit (Kirby National Trail), 11.VIII.2007.

Eutypella juglandicola (Schwein. : Fr.) Ellis et Everh. - on dead branches of *Carya tomentosa* (Poir.) Nutt., Turkey Creek Unit (Turkey Creek Trail), 13.VIII.2007.

Eutypella monticulosa (Berk. & M.A. Curtis) Sacc. **-** on *Magnolia virginiana* L., Turkey Creek Unit (Kirby Nature Trail), 7.X.2009 (VLA P-2462); Newton Co., Bleakwood vicinity, Sand Ridge Cemetery Road, CR 4045 (near Sand Ridge Cemetery), 11.X.2009 (TAES).

Note: The name of this species was reduced to synonyms of *E. goniostoma* (Schwein.) Sacc. (Rappaz, 1987) which occurs on different genera of host plants, but the more narrow species concept is accepted here. Since many species of *Eutypella* are restricted to a certain genus of host plants, such as *E. canodisca* (Salix), *E. grandis* (Acer), *E. elevans* (Rhus), *E. extensa* (Rhamnus), *E. platani* (Platanus), *E. prunastri* (Prunus), *E. sorbi* (Sorbus) and many others, *Eutypella monticulosa* described from *Magnolia glauca* (L.) L. (the latter name is a synonym of *M. virginiana*) in South Carolina might be considered as a separate species. The record from Texas seems to be the second one in USA.

Judging from the description of *Diatrype minima* Ellis & Everh. described from *Magnolia glauca* collected in Newfield (New Jersey), this species could be the member of *Eutypella* too, but it has ascospores 5-7 µm long (Saccardo, 1882), whereas those in *Eutypella monticulosa* are 7-11 µm long.

Melogramma campylosporum Fr. - on dead branches of *Carpinus caroliniana* Walter, Turkey Creek Unit (Turkey Creek Trail), 8.X.2009 (VLA P-2441).

Xylariaceae

Biscogniauxia arima F. San Martín, Y.M. Ju et J.D. Rogers - on dead branches of deciduous tree, Lance Rosier Unit, 3.X.2009 (VLA P-2445).

Note: This record is new for USA. The species was described from Mexico (Ju et al., 1998) and was known only from the type locality before.

Biscogniauxia atropunctata (Schwein. : Fr.) Pouzar - on dead logs of *Fagus grandifolia* Ehrh, and *Quercus* sp., Big Sandy Creek Unit (Beaver Slide Trail,) 2.VIII.2007; Loblolly Unit, 3.VIII.2007; Lance Rosier Unit (Teel Road), 7.VIII.2008; Beech Creek Unit (Beech Woods Trail), 9.VIII.2007

Biscogniauxia citriformis (Whalley, Hammamelev & Taligoola) Van der Gucht & Whalley - on bark of unknown tree, Lady Bird Johnson Municipal Park, Fredericksburg, 28.VI.2009, leg. David P. Lewis (9125).

Biscogniauxia mediterranea (De Not.) Kuntze - on dead branches of *Fagus grandifolia* Ehrh., Big Sandy Creek Unit, 10.X.2009 (VLA P-2443); Turkey Creek Unit (Turkey Creek Trail), 4.VIII.2007.

Biscogniaixia schweinitzii Y.M. Ju & J.D. Rogers - on dead branch of *Quercus* sp., Loblolly Unit, 3.VIII.2007 (TAES)

Note: This is a rather rare fungus and seems to be only known from southeastern USA: Florida, Georgia, Kansas, North Carolina, South Carolina (Miller, 1961; Ju et al., 1998), now Texas.

Camillea broomeiana (Berk. & Curt.) Laessoe, J.D. Rogers & Whalley - on dead trunk of *Quercus* sp., Turkey Creek Unit (Kirby Nature Trail, outer loop), 7.X.2005 (VLA P-2402)

Note: The best description that fits the specimen from Texas is that of Ellis and Everhart (1892) which describes stromata as irregular in shape, suborbicular. 3-4 cm diam., or oblong, 5-8 x 3-4 cm. Exactly large irregular stromata of this variable size were found, and they are surely larger than those illustrated in Jong & Benjamin (1971) or Laessoe et al. (1989). Also, the size of ascospores in the specimen falls in the range 10-14 x 4-5 µm (about 12.5 µm in average) as given by Ellis & Everhart (1892), whereas Jong & Benjamin (1971) indicate the range 13-15 x 5-6 µm with the average that does not include that of ascospores from the Texas specimen. Laessoe et al. (1989) wrote that the ascospores in the type of *C. broomeiana* are 10.5-12.4 x 4.8-5.7 µm, but gave the average in the description as 13.3-15.4 µm, i.e. also larger than typical average. This discrepancy might follow from too large concept of *C. broomeiana* which also includes species described with larger ascospores, for example: *Nummularia cincta* Ferd. & Winge (ascospores 13-15 x 5-6.5 µm) or *N. emergens* Lloyd (ascospores...), *Hypoxylon ovinum* Berk. & Cooke (ascospores...). It should be also noted that species with larger ascospores are mostly found in tropics, whereas *Camillea broomeiana* might be restricted to east-southern United States (Florida, Georgia, Louisiana, South Carolina, now Texas).

Camillea punctulata (Berk. et Ravenel) Laessøe, J.D.Rogers et Whalley - on dead trunk of *Quercus* sp., Lance Rosier Unit (Teel Road), 7.VIII.2007 (TAES); Big Sandy Creek Unit (Beaver Slide Trail), 2.VIII.2007; Loblolly Unit, 3.VIII.2007; Lance Rosier Unit (Teel Road), 8.VIII.2007.

Camillea tinctor (Berk.) Laessøe, J.D.Rogers et Whalley - on dead branches of *Platanus occidentalis* L., Big Sandy Creek Unit, 10.X.2009; on *Platanus occidentalis*, the same Unit (Beaver Slide Trail), 2.VIII.2007; on dead trunk of *Quercus* sp., Loblolly Unit, 3.VIII.2007; on *Carya* sp., Beech Creek Unit (Beech Woods Trail), 9 August 2007..

Creosphaeria sassafras (Schwein. : Fr.) Y.M. Ju, F. San Martín et J.D. Rogers - on dead branches of *Sassafras albidum* (Nutt.) Nees, Newton Co., Bleakwood vicinity, Sand Ridge Cemetery Road, CR 4045, near Sand Ridge Cemetery, 11.X.2009 (VLA P-2442a); on *Sassafras albidum*, Lance Rosier Unit (Teel Road), 7.VIII.2007 (TAES).

Daldinia fissa Lloyd - on dead branches of *Acer rubrum* L., Lance Rosier Unit (Cotten Road), 5.VIII.2007.

Jumillera viridis (Theiss.) J.D. Rogers, Y.-M. Ju & F. San Martín - on dead branches of deciduous trees, Canyonlands Unit, 2.X.2009 (VLA P-2444, TAES)

Note: This rare species was known from Louisiana, New Jersey and South Carolina before (Ju et al., 1993; Rogers et al., 1997).

Hypoxylon annulatum (Schwein. : Fr.) Mont. - on dead branch of *Quercus* sp., Turkey Creek Unit (Kirby Nature Trail), 16.VI.2007, coll. David P. Lewis (TAES); Big Sandy Creek Unit (Beaver Slide Trail), 2.VIII.2007; Loblolly Unit, 3.VIII.2007.

Hypoxylon anthochroum Berk. et Broome - on bark of a deciduous tree, Turkey Creek Unit (Kirby Nature Trail), 13.X.2009 (VLA P-2453).

Hypoxylon cercidicolum (Berk. & M.A. Curtis) Y.M. Ju et J.D. Rogers - in dead branches of *Fraxinus* sp., Canyonlands Unit, 2.X.2009 (VLA P-2449).

Hypoxylon crocopeplum Berk. & M.A. Curtis - on wood, Beaumont Unit (Lakeview Sandbar), 6.X.2009 (TAES).

Hypoxylon dieckmannii Theiss. - on dead branches of a tree, Turkey Creek Unit (Turkey Creek Trail), 4.VIII.2007 (WSP).

Hypoxylon epiphaeum Berk. & M.A. Curtis - on dead branches of *Magnolia virginiana* L., Newton Co., Bleakwood vicinity, David Lewis property, 11.X.2009 (VLA P-2454)

Note: The name of this species is reduced to a synonym of *H. monticulosum* Mont. which has not apparent KOH-extractable pigments (Ju, Rogers, 1996) except for purplish pigments in the young stromata. The fully matures stromata in this specimen have definite purplish pigments. It is also notable that in eastern and southern United States occurs only on *Magnolia* spp., and its substrate and biogeographical restriction suggests the separate species in this region.

Hypoxylon fendleri Berk. - on bark of a deciduous tree, Turkey Creek Unit [Kirby Nature Trail, outer loop and Turkey Creek Trail), 8.X.2005 (VLA P-2447) and 4.X.2009 (TAES, LE); on wood, Lance Rosier Unit (Teel Road), 6.VIII.2007 (WSP).

Note: This species is said to be very common throughout the tropics (Ju, Rogers, 1996), but in USA was collected only in Great Smoky Mountains National Park.

Hypoxylon fragiforme (Pers. : Fr.) J. Kickx fil. - on dead *Fagus grandifolia* Ehrh., Big Sandy Creek Unit (Beaver Slide Trail), 2.VIII.2007; Turkey Creek Unit (Turkey Creek Trail), 4.VIII.2007 (TAES).

Hypoxylon fuscum (Pers. : Fr.) Fr. - on dead branches of *Betula nigra* L., Turkey Creek Unit (Turkey Creek Trail), 8.X.2009 (TAES)

Hypoxylon howeianum Peck - on dead branches of *Carpinus caroliniana* L., Turkey Creek Unit (Kirby National Trail), 11.VIII.2007.

Hypoxylon investiens (Schwein.) M. A. Curtis - on log of *Carpinus caroliniana* L., Turkey Creek Unit (Kirby National Trail), 11.VIII.2007.

Hypoxylon lividipigmentum F. San Martín, Y.M. Ju et J.D. Rogers - on wood of a deciduous tree, Newton Co., Bleakwood vicinity, David Lewis property, 11.X.2009 (VLA P-2450); on bark of a deciduous tree, Turkey Creek Unit (Kirby Natural Trail), 11.VIII.2007 (WSP).

Note: This is the first record in USA. The teleomorph of this species is similar to *H. lividicolor* Y.-M. & J.D. Rogers described from Taiwan, but has thinner stromata up to 1 mm thick, whereas those of *H. lividicolor* are up to 2.5 mm thick. The stromata in the specimen from David Lewis property are not that thick.

The specimen collected at the Kirby National Trail in the Big Thicket National Preserve (on August 11, 2007) was also identified as *H. lividipigmentum* and sent to Dr. Jack Rogers for checking up. He (pers. comm.) thought that was "probably *H. lividicolor* based on thick stromata and long tubular perithecia". Perithecia in the specimen (VLA P-2450) are also long and tubular, but these are implied in *H. lividipigmentum* too, since no difference in perithecia was indicated in the two species. Probably, *H. lividipigmentum* and *H. lividicolor* represent the same species. The name *H. lividipigmentum* was chosen because it was described from the neighboring Mexico and is most probable in Texas.

Hypoxylon mulleri J.H. Mill. - on bark of *Magnolia* sp., Turkey Creek Unit (Turkey Creek Trail), 4.X.2009 (VLA P-2472).

Note: The name of this species is indicated as a synonym of *H. placentiforme* Berk. & M.A. Curtis, but it is kept separately here, since looks exactly as in Miller's photographs (1933, Pl. 39, Figs. 7-8; 1961, Fig. 31) and its shiny black stromata with conspicuous perithecial mounds differ from brown vinaceous and very smooth stromata in the specimen of *H. placentiforme* collected by David P. Lewis in Gillespie County (Lady Bird Johnson Municipal Park). They definitely differ from red stromata of *H. placentiforme* illustrated at the site "Xylariaceae.home". *H. mulleri* was described from Puerto Rico (Miller, 1933) and found later in Florida (Miller, 1961).

Hypoxylon ochraceum Henn. - on dead branches of a deciduous tree [*Forestiera acuminata* (Michx.) Poir.?], Beaumont Unit (Lakeview Sandbar), 6.X.2009 (VLA P-2451. LE); on dead branch of a deciduous tree, Turkey Creek Unit (Turkey Creek Trail), 13.X.2009 (TAES); on a diatrypoid pyrenomycetous stroma, Turkey Creek Unit (Turkey Creek Trail), 4.VIII.2007 (WSP).

Note: This species has mostly tropical distribution (Ju, Rogers, 1996), but was reported from Florida and New York in USA.

Hypoxylon perforatum (Schwein. : Fr.) Fr. - on dead branches of a deciduous trees, Loblolly Unit, 3.VIII.2007; Turkey Creek Unit (Turkey Creek Trail), 4.VIII.2007; Lance Rosier Unit, 7.VIII.2007.

Hypoxylon placentiforme Berk. & M.A. Curtis - on wood, Gillespie County, Lady Bird Johnson Municipal Park, Fredericksburg, 28.VI.2009, leg. David P. Lewis (9123).

Note: The stromata have KOH-extractable pigments olivaceous; the ascospores are 12-14 µm long, whereas Ju and Rogers (1996) indicate a very large range (8.5-18.5 µm) and a very wide distribution in tropics. Surely, different varieties of this species might have more restricted areas and even be vicarious. Ju and Rogers (l.c.) indicate it only for Arkansas and Kansas in USA.

Hypoxylon rosieri J.D. Rogers et Lar.N. Vassiljeva - on dead branches of a deciduous tree, Lance Rosier Unit, 3.X.2009 (VLA P-2452); Lance Rosier Unit (Teel Road), 6.VIII.2007 (WSP - holotype).

Hypoxylon rubigineoareolatum Rehm - on dead branches of *Ilex opaca* Aiton (?), Canyonlands Unit, 2.X.2009 (VLA P-2460).

Note: The specimen fits the description (Ju, Rogers, 1996) in having effused pulvinate stromata with minutely papillate ostioles, ascospores of similar size and shape with perispore dehiscent in 10 % KOH, as well as in lacking apparent KOH-extractable pigments. The surface of stromata is said to be blackish and shiny, but those in the specimen from the Big Thicket are dark purple as indicated by Miller (1961). Further, the later monograph (Ju, Rogers, 1996) indicates only Brazilian collections, whereas Miller (1961) reports the species from Florida. Therefore, the record from Texas is the second one at the main land of USA.

Hypoxylon stygium (Lév.) Sacc. - on dead bark of *Quercus* sp., Lance Rosier Unit, 9.X.2009 (VLA P-2461).

Hypoxylon subgilvum Berk. & Broome - on dead branches of *Ilex opaca* Aiton (?),Canyonlands Unit, 2.X.2009 (VLA P-2470); on bark of a deciduous tree, Lance Rosier Unit (Teel Road), 7.VIII.2007.

Note: This species is indicated for many tropical regions (Indonesia, India, Sri Lanka, Taiwan, among others) but it is not frequent in USA being only recorded in Louisiana, Tennessee and Hawaii (Ju, Rogers, 1996). The specimen corresponds to the description in having stromata of bay color, KOH-extractable pigments orange, and ascospores 8-10 µm long. The only difference is that the perispore dehiscent in 10 % KOH is indicated for *H. subgilvum*, but the perispore in the specimen from Texas is mostly indehiscent in 10 % KOH. Only few split perispores were found.

Hypoxylon thouarsianum (Lév.) C.G. Lloyd var. ***macrosporum*** San Martín, Y.M. Ju & J.D. Rogers - on rotten tree, Hardin County, near West Hardin School, large

palmetto area along Little Pine Island Bayou, off SH105, 16.X.1976, leg. David P. Lewis (678).

Note: The material is very old, asci and ascospores were not seen, but stromata at the surface and cross sections are very similar to this taxon as it is illustrated at the website http://mycology.sinica.edu.tw/Xylariaceae. The daldinioid appearance of stromata and the characteristic annulate ostiolar areas are very characteristic, and this variety might deserve the species status. It was described from Mexico (Ju, Rogers, 1996), but the finding in Texas was collected even earlier.

Hypoxylon truncatum (Schwein. : Fr.) J.H. Mill. - on dead branches of *Quercus* sp., Canyonlands Unit, 2.X.2009 (LE); Jack Gore Baygall Unit, Old Wagon Road, 12.X.2009 (VLA P-2446); Big Sandy Creek Unit (Beaver Slide Trail), 2.VIII.2007; Loblolly Unit, 3.VIII.2007; Turkey Creek Unit (Turkey Creek Trail), 4.VIII.2007.

Nemania colliculosa (Schwein. : Fr.) Granmo - on wood, Canyonlands Unit, 2.X.2009 (VLA P-2456).

Note: The choice of the name for this specimen was based upon the amyloid apical ring which distinguish it from *N. serpens* (Pers. : Fr.) Gray, the presence of a conspicuous germ slit which distinguish it from *N. caries* (Schwein.) Y.M. Ju & J.D. Rogers, and the fact of earlier collections of *N. colliculosa* (as *Nemania serpens* var. *colliculosa*) from eastern and southern USA (Ju, Rogers, 2002).

Nemania macrospora (J.H. Mill.) **comb. nov**. (= *Hypoxylon serpens* (Pers. : Fr.) Kickx var. *macrospora* J.H. Mill., Mycologia 25: 327, 1933) - on wood, Canyonlands Unit, 2.X.2009 (VLA P-2457)

Rosellinia corticium (Schwein. : Fr.) Sacc. on dead branches of *Quercus* sp. (?), Beech Creek Unit (Beech Woods Trail), 9.VIII.2007 (TAES).

Rosellinia glandiformis Ellis & Everh. - on wood, Turkey Creek Unit (Turkey Creek Trail), 4.VIII.2007 (TAES).

Note: This is a rather rare species and was described from neighboring Louisiana. The expert in the genus *Rosellinia* (Petrini, 1992) has considered the species as belonging in other genus, but the proper place is not yet found. [Nevertheless, the similar species *Rosellinia subiculata* (Schweimn. : Fr.) Sacc. is kept within *Rosellinia*]. The same fungus seems to be in the specimen BPI582698 (as *Rosellinia subiculata* (Schwein.) Sacc., on Liriodendron tulipifera, Woodstock, Va., 27 Sept. 1899, coll. & det. C. L. Shear, but L. Petrini's note: "not a *Rosellinia*, spores 14.5-19 x 8-10 µm"). The fruit bodies from Texas are slightly larger than in the type specimen BPI…

Rosellinia langloisii Ellis & Everh. - on dead stems of *Vitis* sp., Lance Rosier Unit (Teel Road), 6.VIII.2007 (TAES).

Note: This species is equally rare and was only known from Louisiana on Vitis sp. The spores are slightly larger (7-10 µm long) than in the description (6-8 µm long).

Vivantia guadalupensis J.D. Rogers, Y.M. Ju et Cand. - on dead branches of *Magnolia* sp., Jack Gore Baygall Unit (Timber Slough Road, near Black Creek Bridge), 12.X.2009 (VLA P-2448, TAES)

Note: This is the first record for USA. The species was described from Guadeloupe (Rogers et al., 1996) and was only known from the type locality before.

Whalleya microplaca (Berk. & M.A. Curtis) J.D. Rogers, Y.M. Ju et F. San Martín - on dead branches of *Sassafras albidum* (Nutt.) Nees, Newton Co., Bleakwood vicinity, Sand Ridge Cemetery Road, CR 4045, near Sand Ridge Cemetery, 11.X.2009 (VLA P-2442b); on *Persea borbonia* (L.) Spreng., Lance Rosier Unit (Cotten Road), 5.VIII.2007; on *Sassafras albidum*, Lance Rosier Unit (Teel Road), 6.VIII.2007.

Xylaria arbuscula Sacc. - on wood of Carya sp., Lance Rosier Unit (Teel Road), 6.VIII.2007

Xylaria hypoxylon (L.) Grev. - on rotten wood, Beaumont Unit (Connolly Road near the river), 6.X.2009 (VLA P-2455).

Hypocreaceae

Albonectria rigidiuscula (Berk. & Broome) Rossman & Samuels - on the bark of *Magnolia grandiflora* L., Turkey Creek Unit (Kirby Natural Trail), 7.X.2009 (VLA P-2473, TAES).

Bionectria byssicola (Berk. & Broome) Schroers & Samuels - on dead branches of *Acer* sp., Loblolly Unit, 3.VIII.2007 (TAES).

Hypocrea petersii Berk. & M.A. Curtis - on logs of *Fagus grandifolia* Ehrh., Turkey Creek Unit (Turkey Creek Trail), 4.X.2009 (VLA P-2459); on logs of *Quercus* spp., Texas, Big Thicket National Preserve, Turkey Creek Unit (Turkey Creek Trail between Pitcher Plant Trail and road 1943), 5.X.2009.

Note: The original description of this species (Berkeley, 1875) does not seem to be appropriate since it describes a fungus that "looks like an agaric infested with some *Hypomyces*", and that "agaric" has a stem about an inch high and an "orbicular head". Nothing of the kind is observed in large (up to 12 cm diam. at the basis) and sessile stromata collected in the Big Thicket. However, Doi (1979) has studied the type specimen at Kew Herbarium, and his description and illustrations of *H. petersii* are in accordance with our material. So far, this species was only known and recently collected from southern USA (Alabama, Louisiana, Tennessee, Texas).

Hypocrea schweinitzii (Fr.) Sacc. - on wood and bark of *Fagus grandifolia* Ehrh. and *Quercus* sp., Beech Creek Unit (Beech Woods Trail), 9.VIII.2007.

Nectria cinnabarina (Tode : Fr.) Fr. - on dead branches of a deciduous tree, Turkey Creek Unit (Turkey Creel Trail), 4.VIII.2007 (BPI).

Sarawakus frustulosus (Berk. & M.A. Curtis) Lar.N. Vassiljeva - on wood, Turkey Creek Unit (Turkey Creel Trail), 4.VIII.2007 (TAES).

Stilbocrea macrostoma (Berk. & M.A.Curtis) Höhn. - on dead branches of a tree, Turkey Creek Unit (Kirby National Trail), 11.VIII.2007.

Cryphonectriaceae

Endothia gyrosa (Schwein. : Fr.) Fr. sensu M. E. Barr (1978) - on dead branches of Quercus sp., Turkey Creek Unit (Turkey Creek Trail), 4.VIII.2007.

Note: There is some confusion around this name. This identification follows Barr's (1978) monograph that considers the genus *Endothia* as having non-septate, allantoid ascospores. The same treatment can be encountered in the later Micales & Stipes' (1987) paper, but their illustration of *E. gyrosa*, as well as *E. singularis* (both on Quercus spp.) shows non-septate ellipsoid ascospores of almost the same size, while allantoid ones are seen in *E. viridistoma* Wehm. (on Cercis canadensis). Rather recently, Myburg et al. (2004) discribed the genus *Endothia* in the same terms and illustrated ascospores of both *E. gyrosa* and *E. singularis* as non-septate, allantoid and similar in size. There is a strong possibility that these entities are conspecific. All these observations are at odds with the electronic Index Fungorum (www.mykoweb.com) where the name *Endothia gyrosa* (Schwein. : Fr.) Fr. is indicated as a synonym of *Cryphonectria gyrosa* (Berk. & Broome) Sacc. & D. Sacc., although this is incorrect from the priority side, and the generic placement is wrong either. The modern synonymy of *Cryphonectria gyrosa* - as *Amphilogia gyrosa* (Berk. & Broom) Gryzenhout, Glen & M. J. Wingf. (Gryzenhout et al., 2005) does not include *Endothia gyrosa* (Schwein. : Fr.) Fr.

Valsaceae

Valsa ceratosperma (Tode : Fr.) Maire (in association with *Diatrype stigma* & *Hypoxylon truncatum*) on dead branches of *Quercus alba* L., Lance Rosier Unit (Teel Road), 6.VIII.2007.