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Southern Forest Pest Reporter

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DIVISION OF
FOREST PEST CONTROL
Southeastern Area
STATE AND
PRIVATE FORESTRY
FOREST SERVICE
U.S. DEPT OF AGRICULTURE

FIELD OFFICES
Asheville, N.C.-Alexandria, La.

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CONSERVATION RECORDS

Number 3 1720 Peachtree St., N.W., Atlanta, Georgia 30309 October, 1970

SUMMARY OF CONDITIONS



.... The southern pine beetle is becoming quite active again in Louisiana, Mississippi, North Carolina, Tennessee, and Northeastern Virginia. It continues to remain low in Alabama, Georgia, parts of North Carolina, South Carolina, and most of Virginia.



.... Ips engraver beetles have become very active and are causing mortality in Louisiana, South Carolina, Texas, and the Gulf Coast of Mississippi.



.... The black turpentine beetle has caused considerable damage to Hurricane Camille areas, especially in suburban areas where heavy equipment was used to remove debris. It is presently causing above normal mortality in South Carolina.

.... Over 2.5 million acres of Arkansas hardwoods were defoliated due to the variable oak leaf caterpillar and the saddled prominent. Both red and white oaks were heavily defoliated with hickory, elm, and river birch having visible defoliation.

.... Fluorides and sulfur dioxide were causing damage to slash, longleaf and loblolly pines in Alabama and Texas.

.... The first known occurrence of Dutch elm disease in Texas was detected in the Northeastern portion of the state.



SUMMARY OF CONDITIONS (Cont'd)

- Oak wilt has been found for the first time in two new counties in South Carolina.
- Widespread mortality of mimosa due to root rot is occurring in Mississippi, Alabama, and Louisiana.

STATUS OF FOREST INSECTS

SOUTHERN PINE BEETLE, *Dendroctonus frontalis*, Zimm.

ALABAMA

The beetle population on the Bankhead National Forest has collapsed and is now considered endemic. This collapse is probably due to low winter temperatures which caused 97% mortality to overwintering broods.

Populations on the Talladega National Forest are continuing at a very low level.

GEORGIA

Reconnaissance surveys in August over the Oconee National Forest, the Piedmont National Wildlife Refuge and the Hitchiti Experimental Forest revealed a low level of bark beetle activity. Most of the spots detected were centered around lightning strikes and consisted primarily of ips and black turpentine beetle activity.

LOUISIANA

The southern pine beetle on the Winn and Catahoula Districts of the Kisatchie National Forest has become epidemic. A July evaluation showed average brood densities of 324 larvae per square foot of bark surface and a ratio of increase between parent adults and brood of 1:6.0.

Beetle activity has increased in Caldwell, East Winn, and North LaSalle Parishes and the population is now considered epidemic. The population in Allen Parish continues at an endemic level. Control by salvage of infested material is continuing. (Louisiana Forestry Commission)

MISSISSIPPI

The beetle population, endemic for several years, has increased considerably on the Homochitto National Forest. An evaluation made in July showed high brood densities and ratios of increase. A potential for severe timber losses now exists on this forest.

NORTH
CAROLINA

Despite a drastic reduction in the overwintering southern pine beetle population during the winter of 1969-70, scattered infestations continue to persist in the mountains of western North Carolina. Aerial reconnaissance and photographic surveys conducted by the Division of Forest Pest Control

SOUTHERN PINE BEETLE (Cont'd)

NORTH
CAROLINA
(Cont'd)

indicate an expanding beetle population is present on the Tusquitee District of the Nantahala National Forest. Salvage operations are presently in progress on this district to reduce the economic loss caused by the beetle. Beetle activity on the Cheoah and Wayah Districts, both bordering on the Tusquitee, has decreased to a very low level and is not expected to cause any further damage during this growing season.

Elsewhere in the state, southern pine beetle activity has generally declined with the exception of Davidson, Rowan and Carteret Counties where epidemic populations still exist, and Wake, Durham, Martin, Bertie and Gates Counties where a slight increase in activity was observed in early August. (North Carolina Forest Service)

SOUTH
CAROLINA

In late August 1970 a 10% aerial reconnaissance survey was conducted by the S. C. Commission of Forestry to detect pine bark beetle infestations. The survey covered approximately 5,100,000 gross acres in 20 counties throughout the southern pine beetle "belt" which is located in the Piedmont region of the state.

Subsequent ground checks during this survey indicated a complete collapse of the already small southern pine beetle population. No live brood or adults of this insect were observed. Losses due to this insect during the 1970 season appear to be extremely subnormal.

In conjunction with the State's bark beetle survey, the Division of Forest Pest Control conducted a photographic survey on the Tyger and Enoree Ranger Districts of the Sumter National Forest. Results of this survey indicated 2.9 ± 1.8 spots per M acres of host type ($p = .10$). All spots were the result of *Ips* spp., black turpentine beetle, lightning, or a combination of these. No evidence was found of any southern pine beetle activity.

TENNESSEE

An epidemic population of the southern pine beetle has developed on the Tellico District, Cherokee National Forest from the few survivors of last winter's cold spell. An August photographic survey by the Division of Forest Pest Control indicated the presence of 156 ± 347 infested trees per M acres of host type. Salvage operations are underway at this writing.

Reconnaissance flights over Tennessee Valley Authority and Atomic Energy Commission lands indicate that southern pine beetle populations are at a very low level and are not expected to cause further damage this growing season.

SOUTHERN PINE BEETLE (Cont'd)

TEXAS

Activity on the Angelina and Sabine National Forests has increased and the population has again become epidemic. An evaluation made in July showed an estimated 6.7 and 3.8 infested trees per M acres on the Yellowpine and Tenaha Ranger Districts, respectively. Brood densities and ratios of increase indicate a potential for increased activity. Population levels are endemic on the Davy Crockett and the Sam Houston National Forests. The southern pine beetle was detected on the Neches Ranger District for the first time during the July survey. Control by removal and utilization of infested material is continuing where necessary.

Activity is continuing at a moderate level on private land but has decreased considerably since this time last year. During the period January 1 through September 9, 1970, 828 multiple tree spots were detected. This is less than one-half the number of spots (1698) detected during the same period in 1969. Control operations are continuing. (Texas Forest Service)

VIRGINIA

A sudden increase in southern pine beetle activity in Accomack County, Virginia has caused an estimated loss of 500 MBF within the last few months. Salvage operations are being hindered by the lack of woods workers in the area, but should be underway in the near future. (Virginia Division of Forestry)

Increased southern pine beetle activity on the Virginia peninsula was observed during an evaluation of insect activity on the Colonial National Historical Park and Parkway during October, 1970.

IPS ENGRAVER BEETLES, *Ips* spp.

LOUISIANA

Activity was above normal throughout the state during the summer. Activity was exceptionally high in Evangeline, Beauregard, and Natchitoches Parishes. *Ips* activity near DeRidder required the cutting and burning of approximately 30 acres of a 15-year-old slash pine plantation. (Louisiana Forestry Commission)

MISSISSIPPI

Population levels have not built up significantly on the DeSoto National Forest as a result of Hurricane Camille. Surveillance of the area is being continued. However, along the coast mortality is continuing especially in suburban areas of Gulfport, Biloxi, etc. This is especially evident where heavy equipment has been used in debris removal. The black turpentine beetle is active in conjunction with the *Ips* beetle.

IPS ENGRAVER BEETLES (Cont'd)

SOUTH
CAROLINA

The South Carolina survey indicated losses to the Ips engraver beetles (primarily *Ips grandicollis* and *I. calligraphus*) to be very high.

However, population levels at the time of the survey were considered normal. Losses of epidemic proportion (primarily in plantations and pulpwood size stands) occurred over a 20,000 acre area in Union and Newberry Counties on both U.S.F.S. and private land. These counties are located in the north central portion of the state. Salvage operations are presently underway in these areas. (South Carolina Commission of Forestry)

TEXAS

Population buildup was above normal in the spring and summer, especially those areas where drought conditions prevailed (over three months without rain). Current activity is about normal for this time of year. (Texas Forest Service)

BLACK TURPENTINE BEETLE, *Dendroctonus terebrans* (Oliv.)

LOUISIANA

Black turpentine beetle populations are endemic on the Kisatchie National Forest. Large, pole sized loblolly pine trees of high value were heavily infested by this beetle on the Catahoula District.

MISSISSIPPI

As a result of Hurricane Camille suburbs of coastal cities are infested with the black turpentine beetle. Activity is confined to those areas in which heavy equipment was used in debris removal.

SOUTH
CAROLINA

A heavy infestation was detected on the 96,000 acre Sandhills State Forest in South Carolina. Spots ranged in size from two to five hundred trees. (South Carolina Commission of Forestry)

TEXAS

According to an evaluation in September, black turpentine beetle populations remained at endemic levels on the Texas National Forests. Some activity was found along recently built roads. Overall, damage is negligible.

PINE SAWFLIES, *Neodiprion* spp.

MISSISSIPPI

The red headed pine sawfly *N. lecontei* (Fitch) was detected on pines at the Erambert Orchard. However, a virus killed most of the larvae before treatment was considered necessary.

PINE SAWFLIES (Cont'd)

FLORIDA The red headed pine sawfly, *N. lecontei* caused partial defoliation of 45 acres of a 6-8 year-old slash pine plantation in southwest Marion County.

GYPSY MOTH, *Porthetria dispar* (L.)

VIRGINIA Three positive identifications of Gypsy moth, *Porthetria dispar* (L.) have been recorded in Virginia this year. One, in Rockingham County is within 20 miles of last year's catch on the Blue Ridge Parkway. This does not necessarily indicate that there is any association between the two catches. The other two catches were in Accomack and Prince William Counties. (Virginia Division of Forestry)

HARDWOOD DEFOLIATORS

ARKANSAS A gross area of over 2.5 million acres was defoliated this fall primarily by the variable oak leaf caterpillar, *Heterocampa manteo* (Dblly.), and secondarily by the saddled prominent, *Heterocampa guttivitta* (Walker).

Commonly associated species in descending order of importance were an oak worm, *Anisota stigma* (F.); yellow necked caterpillar, *Datana ministra* (Drury); walnut caterpillar, *Datana integerrima* (G. & R.); and a hag moth, *Phobetron pithecium* (Smith), and other defoliators too numerous to mention. The major area of infestation extends from north Pine Bluff to, and including, Piggott in the northeast corner of the state. Approximately 1.5 million acres of host type has moderate to heavy defoliation. Oaks are the most heavily defoliated especially the red and white oak group. Other trees with visible defoliation included hickory, elm and river birch.

The area was defoliated this spring with the second and heavier defoliation occurring in late September and early October as is common with the variable oak leaf caterpillar in the southern part of its range. (Arkansas Forestry Commission)

TEXAS The primary defoliators of live and post oak reported in a previous Pest Reporter have been identified. Two tortricids, *Archips semiferanus* (Wlk.) and *Sparganothis pettitana* (Robinson), are the most abundant while a looper *Nematocampa filamentaria* (Gn.) is found in smaller numbers.

MISCELLANEOUS INSECTS

LEAF MINERS

FLORIDA An unidentified leaf miner which infests turkey oak, *Quercus laevis*, is epidemic over a 300,000 acre area in Walton, Okaloosa and Santa Rosa Counties. It is estimated that about 50 percent of all leaves on most of the turkey oaks in the area are infested.

BAGWORM, *Thyridopteryx ephemeraeformis* (Haw.)

KENTUCKY This insect has been reported causing concern among many
VIRGINIA land and homeowners statewide on various hosts including white pine, cedar and black locust. Infestations in scattered areas have been heavy. Heavy activity has been noted on red cedar, spruce, arborvitae, and white pine throughout Virginia. (Kentucky and Virginia Divisions of Forestry)

LOCUST LEAF MINER, *Xenochalepus dorsalis* (Thunberg)

KENTUCKY Damage caused by the locust leaf miner has been moderate to
heavy in eastern Kentucky and western Virginia this summer. (Kentucky and Virginia Divisions of Forestry)

Bucculatrix spp.

KENTUCKY A leaf skeletonizer of shingle oak has been reported in the
north central and central part of the state. Damage was first reported on Big Bonelick State Park which had severe defoliation. Other scattered infestations have been reported. (Kentucky Division of Forestry)

A TRUE BUG, *Leptoglossus oppositus* (Say)

TENNESSEE A bug, *Leptoglossus oppositus* (Say) has been observed feeding
on the seed pods of yellow poplar in the state seed orchard at Pinson, Tennessee. The extent of damage caused by this insect is presently unknown. (Tennessee Division of Forestry)

PERIODIC CICADA - *Magicicada septendecim* (Linnaeus)

NORTH
CAROLINA
TENNESSEE
VIRGINIA

The periodic cicada (17 year race) has caused extensive twig and branch kill to hardwoods in Northern Virginia, western North Carolina and eastern Tennessee. (North Carolina, Tennessee and Virginia Divisions of Forestry)

STATUS OF FOREST DISEASES

AIR POLLUTION

ALABAMA

Severe fluoride injury was observed on several acres of slash and longleaf pines in southeastern Alabama. The pine foliage was reddish-brown, and typical fluoride symptoms were observed on broadleaved shrubs and trees. No mortality was observed. The source of the pollution was a clay products plant which was utilizing fluorspar (a source of fluorides) in the manufacturing of a white brick. This product has been discontinued and no further injury is expected.

TEXAS

Several hundred loblolly pines were severely injured or killed in a natural stand located in east Texas. The pollutant was sulfur dioxide, being emitted from a nearby sulfur refinery. This refinery has recently been shut down and no further problems should be encountered.

BROWN CUBICAL BUTT ROT caused by *Polyporus schweinitzii* Fr.

LOUISIANA

Brown cubical butt rot was detected in two thinned longleaf pine stands located on the proposed Kincaid Recreation Area, Evangeline Ranger District, Kisatchie National Forest. Root damage from heavy logging equipment apparently provided the necessary infection court for the fungus. The largest observed center involved 15 dead and dying trees. Numerous annual sporophores were observed on infected roots and stumps in both areas.

RED RING ROT caused by *Fomes pini* (Thore) Lloyd

NORTH
CAROLINA

Two Conservation Corps plantations of Norway Spruce on the Wayah Ranger District of the Nantahala National Forest have been found to be badly infected with *Fomes pini*. In one of the plantations nearly 50 percent of the trees have been infected, with mortality approaching 25 percent. Infected trees exhibit heavy resin flow along the trunk from the base of branch stubs.

OAK ANTHRACNOSE caused by *Gnomonia veneta* (Sacc. & Speg.) Kleb.

NORTH CAROLINA Oak anthracnose has been severe at certain localities in the mountains of North Carolina near Asheville. The disease has damaged the aesthetic value of the oaks in some areas along the Blue Ridge Parkway. This organism has also caused defoliation of maples and oaks in Davidson County.

FUSARIUM CANKER caused by *Fusarium solani* (Mart.) Apple & Weir

VIRGINIA An extensive infection (nearly 100%) of yellow poplar by *Fusarium solani* (Mart.) was noted in a two-acre stand in Westmoreland County. Much of the infection seems to arise from frost-kill of epicormic buds on trunks of younger trees. (Virginia Division of Forestry)

DUTCH ELM DISEASE caused by *Ceratocystis ulmi* (Buism.) C. Moreau

MISSISSIPPI A survey of the Natchez Trace Parkway revealed widespread mortality of elms due to Dutch elm disease. This disease was first discovered in Mississippi in 1968 and apparently is spreading rapidly throughout the northern section of the state.

TEXAS The first known occurrence of Dutch elm disease in Texas was reported in Cass County, located in the northeastern portion of the state. One American elm showed typical symptoms. The *Graphium* stage of the fungus was isolated from branch samples taken from this tree. Two adjacent elms had died and were cut down within the previous two years. Examination of the stumps revealed the presence of galleries of the small European elm bark beetle, a known carrier of *C. ulmi*.

ELM PHLOEM NECROSIS

MISSISSIPPI Elm phloem necrosis is causing heavy mortality to American and Chinese elms in Greenville and Cleveland, Mississippi. Prior to 1970, the disease was known to be north and east of Greenville. The elm leaf hopper, *Scaphoideus luteolus* Van. D., vector of the pathogen, has yet to be reported in northwestern Mississippi. (Dr. T. H. Filer, Plant Pathologist, Stoneville, Mississippi)

COMANDRA BLISTER RUST caused by *Cronartium comandrae* Pk.

TENNESSEE A comandra survey in an 11.5 acre plantation near Tullahoma revealed five percent of the trees had been killed by the disease. Many more trees showed signs of infection on branches. (Tennessee Division of Forestry)

WHITE PINE BLISTER RUST caused by *Cronartium ribicola* Fischer

VIRGINIA The Division of Forest Pest Control has established permanent white pine blister rust spread plots during the past summer on the George Washington and Jefferson National Forests and the Shenandoah National Park.

In FY 1970, a total of 30,932 acres were surveyed, ribes bushes were eradicated on 1,052 acres (8,288 bushes destroyed by chemical sprays). In addition 2,864 acres (510 plantations) of white pine plantations were examined in 14 counties. (Virginia Division of Forestry)

NORTH CAROLINA No blister rust was found in a recent survey of 75 eastern white pine plantations growing above 2,500 feet in elevation. (Division of Forest Pest Control and the National Forests in North Carolina)

Ribes eradication was undertaken on 314 acres. A total of 262 landowners were assisted with blister rust problems, mainly ones that had high valued christmas tree plantations. No new infections were found outside the counties that were previously reported. (North Carolina Forest Service)

FUSIFORM RUST caused by *Cronartium fusiforme* (A. & K.) Hedge. and Hunt

VIRGINIA A summary of losses due to Fusiform rust in loblolly pine plantations in eastern Virginia showed unusually low figures. Results show 5.7 to 0.0 percent infection for branch cankers and 3.4 to 0.0 percent infection for stem cankers. This might be due to the relative growth of the sampled plantations. (Virginia Division of Forestry)

OAK WILT caused by *Ceratocystis fagacearum* (Bretz) Hunt

SOUTH CAROLINA During 1969 oak wilt was known to occur in only one county (Kershaw) in South Carolina. During June, 1970 Kershaw was resurveyed along with five adjoining counties. Oak wilt was discovered in two of these counties, Chesterfield and Lee.

OAK WILT (Cont'd)

SOUTH
CAROLINA
(Cont'd)

They are to the east of the previously discovered spots in Kershaw County. A total of six new spots have been confirmed this year; four in Kershaw and one each in Chesterfield and Lee. These spots contained 36 trees. The survey covered 1,624,000 acres. (South Carolina State Commission of Forestry)

VIRGINIA

Virginia reported fewer positive spot infections were located in 1970. An aerial survey of Washington and Scott counties failed to turn up any positive centers. (Virginia Division of Forestry)

MIMOSA ROOT ROT caused by *Polyporus lucidus* Fr.

ALABAMA
LOUISIANA
MISSISSIPPI

Widespread mortality of mimosa (*Albizzia julibrissin* Duraz.) has been observed in Mississippi, southern Alabama and central Louisiana. Primary cause of the mortality is *P. lucidus*, a root and butt rot fungus capable of attacking a wide variety of hardwood hosts. Lawnmower and other mechanical damage to the lower portion of the stem and roots provides the infection courts for the pathogen. The fungus is also capable of spreading from infected to healthy trees via root contacts and grafts.

OAK DECLINE - Cause Unknown

KENTUCKY
VIRGINIA

This condition in oaks continues to be a troublesome problem in the northeastern part of Kentucky and the western part of Virginia. Trees are continuing to decline, the dry summer has seemed to aggravate the situation. (Kentucky and Virginia Divisions of Forestry)

SHOESTRING ROT caused by *Armillaria mellea* (Vahl.) Quel.

NORTH
CAROLINA

Very serious damage is being caused by this organism in oaks in Stanley County. (North Carolina Forest Service)



Figure 1: Skeletonized black oak leaf caused by the first instar of the variable oak leaf caterpillar.



Figure 2: Variable oak leaf caterpillar.

More detailed information can be obtained by writing to
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or to the Atlanta Office:

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