V. DISEASES OF FOREST AND SHADE TREES

BALSAM FIR (Abies balsamea)

Witches' Broom (Melampsorella Caryophyllacearum). From counts made in 12 locations in P.E.I. it was found that 2% of the trees showed brooms. (R.R. Hurst)

ELM (Ulmus)

Black Spot (Gnomonia Ulmi). A detailed study of this organism has been made by Dr. Rene Pomerleau, and is now being published in parts (Le Naturaliste Canadien Vols. 40-41).

A few young trees were heavily infected, but the damage was slight in Fredericton, N.B.

Twig Blight (Thyrostroma compactum (Sacc.) v. Höhn). This fungus was fruiting on diseased twigs said to be of Chinese elm (Ulmus pumila) collected at Trinity College School, Port Hope, Ont., and communicated by Prof. J.E. Howitt (4524). The same fungus was found by J.W. Groves on twigs of Ulmus sp. (3827) from Levis, Que. in 1936. These are the first records from Canada, but it has been found in Illinois (J.G. Carter, Phytopathology 26:801-806. 1936). Dr. Dearness also examined some of the Port Hope material and referred it to Exosporium Ulmi Erikss. as well as a specimen he received from Martinsdale, Ind. on Ulmus americana. (I.L. Conners)

Cephalosporium Wilt or Die Back. Dothiorella Ulmi the pycnidial form of the fungus known formerly as Cephalosporium sp. was recently described (A.F. Verrall and Curtis May, Mycologia 29:321-324. 1937). Its occurrence in N.S. was noted last year (P.D.S. 16:67).

HAWTHORN (Crataegus)

Rusts. (Gymnosporangium clavipes was present on a few fruits of a Crataegus oxyacantha hedge at Bridgeport, N.S. (I.L. Conners). G. clavariaeforme was severe on C. oxyacantha rosea at Charlottetown, P.E.I. (G.W. Ayers)

Powdery Mildew (Podosphaera oxyacanthae). Slight infection was found at Edmonton, Alta. and a moderate one at Charlottetown, P.E.I.

HORSE CHESTNUT (Aesculus)

Leaf Blotch (Guignardia Aesculi) was common on roadside trees and in parks in Ont. Frequently the beauty of the

trees was ruined by this blotch (J.E. Howitt). The disease was particularly heavy around Smithville (G.C. Chamberlain). All trees in P.E.I. were severely damaged and many thus affected show considerable winter injury.

JUNIPER (Juniperus)

Rust (Gymnosporangium clavariaeforme) was found on two shipments of Juniperus communis var. suecica from Holland upon inspection. In one 3 out of 530 were affected in the other 3 out of 10. (I.L. Conners)

Winter Injury was considerable on some species of Juniper at the Summerland Station, B.C.

MAPLE (Acer)

Leaf Blister (Taphrina sp.). Two leaves of the red maple (A. rubrum) bearing spots brown to black above and dark ashy beneath were collected at Portland, Ont. on June 16, and sent by Mr. Edward Trevor to Ottawa and were communicated by Mr. deGryse. Upon examination a Taphrina was found on the spots. The fungus is very similar to Taphrina polyspora (Sorok.) Johans. (Exoascus Aceris Link) in Sacc. Syll. 8:813. The asci are borne on the under surface of the leaf, but are plainly provided with a short broad stalk cell. The asci are filled with conidia when mature. No noticeable puckering or thickening of the leaf tissue was revealed, even when examined under the microscope.

In all, Mr. Trevor found four red maples affected with the blister, although other evidently healthy trees stood in the same row and across the street from one heavily infected tree. The leaves were noticeably spotty half-way up, mostly in the centre of the tree. He was told this tree had been intensively blackened two years ago and to have been spotted every year. The disease was first noticed 6 or 7 years ago. The worst affected tree was three blocks away. Here the leaves on the lower half of the tree were curled and appeared ready to fall, but the top-most branches seemed clean. On the other two trees the spotting was not conspicuous. Since the disease was confined to the interior of the tree or to trees heavily shaded by a house or other buildings, Mr. Trevor concluded that shading favours the development of the disease. The affected trees were from 20' to 50' high. The lower leaves of one sugar maple (A. saccharum) were also found bearing spots "similar to those on the red, but they were a lighter brown and hardly noticeable, except on inspection". These spots were examined microscopically but the Taphrina was not seen. While leaves of red maple in this later sending examined at

the same time still bore the Taphrina, the fungus was nearly past. What is probably the same fungus is reported as Taphrina sp. on Acer rubrum from N.Y. and N.C., on A. saccharum from Me., N.H., N.Y., Pa., Ga., Ind., Mich., Mo., and on A. nigrum from Ohio (Check List of Diseases of Economic Plants in the United States. U.S.D.A. Dept. Bull. 1366, p. 14, 1926. (I.L. Conners)

Wilt (Verticillium sp.) was seen affecting a single silver maple at St. Catharines, Ont.

MOUNTAIN ASH (Sorbus)

Canker (Cytospora sp.) caused severe injury at Edmonton, Alta.

Fire Blight (Erwinia amylovora). Twenty-five badly diseased trees were seen near Charlottetown, P.E.I., some at Montague and also in other parts of the province. (R.R. Hurst)

Wood Rot (Armillaria mellea). One tree on the grounds of a private house at Mission, B.C. was partially dead from this fungus. (W. Jones)

PINE (Pinus)

White Pine Blister Rust (Cronartium ribicola) is general throughout N.B. As no large white pine stocks occur in the province damage is confined to individual trees or small stands (J.L. Howatt). Thirty trees at Mermaid, P.E.I. were found severely infected. (R.R. Hurst)

Comandra Rust (Cronartium Comandrae). A few trees were found affected at Summerland Station, B.C. (G.E. Woolliams)

Winter Injury was considerable on white pine and Austrian pine at L'Assomption, Que.

POPLAR (Populus)

Leaf Blight (Sclerotium bifrons) caused considerable defoliation at Prince George, B.C., on Populus tremuloides.

SPRUCE (Picea)

Rust (Chrysomyxa ledicola) was common in York and Sunbury counties, N.B. and caused defoliation of young Picea nigra. (J.L. Howatt)

Winter Injury was considerable on spruce at L'Assomption, Que. It was also rather severe on hedges in York county, N.B.

WALNUT (Juglans)

Bacterial Blight (Phytomonas Juglandis) was heavy on foliage and nuts at the Sidney Station, B.C., and caused 10 to 20% damage. (W. Jones)

WHITE CEDAR (Thuja)

Winter Injury was severe on ornamental white cedars and common cedars used in hedges at Ottawa, Ont. The damage was apparently due to transpiration requirements of the foliage being greater than the amount of water made available by the roots. Lack of snow cover had resulted in the ground becoming frozen to considerable depth. The soil was still very cold when the first warm days arrived (I.L. Conners). The damage was severe on cedar hedges in York county, N.B. (S.F. Clarkson)

WILLOW (Salix)

Scab (Fusicladium saliciperdum). Specimens of the disease were received from Rimouski, Que. (I. Mouce). This disease is everywhere in N.B. and this year appeared to be unusually destructive. Although the Laurel Willow has been reported to be immune, yet an outbreak of what appeared to be scab was found on this species (J.L. Howatt and S.F. Clarkson). Scab was very destructive in 1936 and greatly weakened the few susceptible willows left in N.S. In 1937 the disease appeared to be even more destructive. In spite of the usual control measures at Great Pre, the disease caused some damage to the old willows there. (K.A. Harrison)

Black Canker (Physalospora Miyabeana) was very abundant and easily found on most trees in the Gaspereaux valley, N.S. (K.A. Harrison)