

V. DISEASES OF TREES AND SHRUBS

## ABIES - Fir

Witches Broom (Melampsorella caryophyllacearum) was quite prevalent on A. balsamea throughout the Avalon Peninsula, Nfld. (D. W. Creelman).

Rust (Pucciniastrum goeppertianum). The needles of several fir trees were sev. infected at St. John's West, Nfld. (D. W. C.).

## ACER - Maple

Canker (Cytospora ambiens) girdled and killed limbs of A. platanoides at Windsor, Ont. The specimen received showed extensive cankers with the pathogen fruiting profusely (D. W. C., S. J. Hughes).

Leaf spot (Phyllosticta minima) was mod. -sev. on A. saccharum at the Provincial Zoo, Orsainville, Que. (D. Leblond).

Tar Spot (Rhytisma acerinum). Specimens of affected A. saccharinum were received from St. Tite, Champlain Co., Que. (D.L.).

Wilt (Verticillium albo-atrum) was found affecting Acer spp. at Harrow, Ont. (A. A. Hildebrand).

Leaf Scorch (physiological) is reported each summer in dry periods in the Vancouver, B.C. area, particularly where trees are grown in rockeries or in apartment house planters (H.N. W. Toms).

## AESCULUS - Horsechestnut

Leaf Blotch (Guignardia aesculi) affected 50% of the foliage of A. hippocastanum at Kentville, N.S. (T.O. Courley). Street trees at Yarmouth, Hebron and Port Maitland, N.S. were sev. affected (D.W.C.). Incidence in P.E.I. was the lightest in several years, probably due to the dry weather (J.E. Campbell)

## AMELANCHIER

Rust (Gymnosporangium clavariaeforme) was sev. on Amelanchier spp. at St. John's West, Nfld. (O.A. Olsen).

Iron-induced Ghlorosis was quite common on Amelanchier spp. in the Winnipeg, Man. district (B. Peturson).

## BERBERIS - Barberry

Dieback (Dothiorella ? ribis) was sev. on hedges of B. thunbergii at the Plant Protection Station, Ste. Foy, Que. (D.L.).

Rust (Puccinia graminis) was found on B. vulgaris in N. B. (G. B. Orlob, R.H.E. Bradley) (C.P.D.S. 40: 2. 96. 1960).

Wilt (Verticillium albo-atrum) affected Berberis spp. at Harrow, Ont. (A.A.H.).

## BETULA - Birch

Anthracnose (Gloeosporium betularum). Infected specimens of Betula sp. were received from Montreal, Que. (P. Basu).

Rust (Melampsorium betulinum) affected 100% of B. albo var. pendula in a one and one-half-acre nursery planting at Yarrow, nr. Chilliwack, B. C. (A.E. Straby, J.A. Parmelee).

## BUXUS - Boxwood

Winter Killing. Two shrubs of B. sempervivens, though well protected, were partially killed during the 1959-60 winter at Ottawa, Ont. (D.W.C.).

## CATALPA

Wilt (Verticillium albo-atrum) affected some trees at Harrow, Ont. (A.A.H.).

## CHAMAECYPARIS

Die-Out (Phytophthora lateralis) killed plants in 2 hedges of C. lawsoniana at Vancouver, B.C. (H.N. W. T.). This disease continues to cause considerable damage in the coastal areas of B.C. (W.R. Foster).

## CLEMATIS - Virgin's Bower

Root-knot Nematode (Mcloidogyne sp.) was prevalent on the roots of 100 small plants of C. jackmanii in a nursery at Fonthill, Ont. Other species and varieties did not appear affected (W. G. Kemp).

## CQ TINUS - Smoke Tree

Winter Killing. A single bush was killed in a garden at Ottawa, Ont. during the 1959-60 winter (D.W.C.).

## COTONEASTER

Leaf Spot (Phyllosticta sanguinea) was sev. on C. acutifolia at the Provincial Zoo, Orsainville, Que. (D.L.).

## CRATAEGUS - Hawthorn

Leaf Blight (Fabraea maculata) caused considerable defoliation of C. oxyacanthae at Chilliwack, B.C. in May and at North Vancouver in Aug. (H.N. W. T.). Heavily infected specimens were received from Coburg, Ont. (H.S. Thompson). Infection was mod. with some defoliation on a 200-ft. hedge at Yarmouth, N.S. (D. W. C.).

Rust (Gymnosporangium clavipes) was mod. on Crataegus sp. nr. Ste. Anne de la Pocatiere, Que. (D. W. C.).

#### DAPHNE

Anthracnose (Marssonina daphnes). Infection was heavy and defoliation almost complete on D. mezereum in a perennial bed at Saanichton, B. C. (R.G. Atkinson).

#### HYDRANGEA

Powdery Mildew (Erysiphe communis Wallr. ex Fries = E. cichoracearum DC.). A 60% infection was seen at Marysville, N.B. (S.R. Colpitts).

#### ILEX - Holly

Chemical Injury. Fertilizer burn from a heavy application of chicken manure killed 25-30 young holly trees nr. Cloverdale, B. C. (H. N. W. T.).

#### JUNIPERUS

Rust (Gymnosporangium clavipes). Telial horns were fully gelatinized and producing basidiospores in late May at Kentville, N. S. (J. F. Hockey).

#### LONICERA. - Honeysuckle

Leaf and Twig Blight (Ascochyta sp.) caused sev. defoliation and twig blight on Lonicera sp. at the Research Station, Fredericton, N.B. (K. M. Graham).

Gray Mold (Botrytis cinerea) affected leaves and berries of Lonicera sp. at Fredericton, N.B. (G. B. Orlob) (C. P. D. S. 40: 2. 68, 1960).

Leaf Blight (Herpobasidium deformans) was mod. on a single bush of L. tatarica on the O. A. C. campus at Guelph, and it was tr. on the same host in Vincent Massey Park, Ottawa, Ont. (D. W. C.).

Powdery Mildew (Microsphaera penicillata (Wallr. ex Fries) Lev. var. lonicerae (Fries) W.B. Cke = M. alni (Wallr.) Salmon). Infection was mod. on a 50-foot hedge of L. tatarica at Ottawa, Ont. (D. W. C.), Specimens were received from Three Rivers, Que. (D. L.), and it was present in N. B. but caused little damage (G.B.O.) (C.P.D.S. 40:2. 69. 1960).

#### MALUS - Ornamental Crab

Rust (Gymnosporangium sp.) was sev. on flowering crabs at St. John's West, Nfld. (O.A.O.)

Scab (Venturia inaequalis). Infected specimens were received from Waterloo, Ont. (P.B.)

Dwarfing, Dieback, etc (virus). A nurseryman in a Fraser Valley, B. C. nursery propagated thousands of flowering crab scions, in approximately

50 species and varieties, on 7 different Malling and Malling Merton root-stocks. Thirty-seven % of these varieties had low scion take, were dwarfed, died back from tips, and/or displayed leaf curling, mottling and necrosis. Several varieties were sensitive on Malling Merton 104. Most varieties were sensitive on Malling II, Malling IX and Malling Merton 106. Evidence suggests that several latent viruses are involved (M, F. Welsh).

#### PICEA - Spruce

Witches' Broom (Peridermium coloradense) was frequently observed on Picea spp. in the Avalon Peninsula, Nfld. (D.W.C.).

#### PINUS - Pine

White Pine Blister Rust (Cronartium ribicola) was observed on a tree of P. strobus grown as an ornamental at Fort Garry, Man. (W.J. Cherewick).

#### PLATANUS - Sycamore

Anthraxnose (Gnomonia veneta) was sev. and widespread in the coastal areas of B.C. and caused up to 50% defoliation (W.R.F.). Three badly infected trees were seen at Merriton, Ont. Twigs were killed back and some defoliation had occurred (W. G. K.).

#### POBULUS - Poplar

Ink Spot (Ciborinia whetzeli). Specimens on P. nigra var. italica were received from Drummondville, Que. (D.L.).

Canker (Cytospora chrysosperma). Sev. infections were seen on P. nigra var. italica in the Gaspé Peninsula and Matapedia Valley, Que. (D.L.).

Canker (Dothichiza populea). Severe killing of P. nigra var. italica was observed at New Minas (C.L. Lockhart) and at Grand Pre, N.S. (K.A. Harrison).

Anthraxnose (Marssonina populi). A small block of P. tremuloides at Lakeville, N.S. was 50% defoliated. Infection in 1959 had killed many twigs (K.A. H.).

Powdery Mildew (Uncinula salicis). Specimens were received on P. balsamifera from Jonquiere, Que. (D.L.).

#### PRUNUS

Black Knot (Dibotryon morbosum) was seen on an ornamental planting at Lethbridge and on a few wild shrubs in Waterton Park, Alta. (P. E. Blakeley, F.R. Harper).

Blossom Blight (Monilinia fructicola) was heavy on chokecherries along the roadside from Castlegar to Deer Park, B.C. Infection approached 100% (L.E. Lopatecki). Infection was 75% on P. triloba at New Minas, N.S. (C.L. L.).

Shothole (Stigmina carpophila). Infected specimens of P. laurocerasus were received from home gardens in the Vancouver, B.C. area (H.N. W. Toms).

#### PYRUS - Mountain Ash

Canker (Cytospora rubescens) affected a number of trees at the Chilliwack Army Camp, B.C. (R.G.A.).

Fire Blight (Erwinia amylovora). Specimens on P. americana were received from Sillery, Que. (D.L.).

Rust (Gymnosporangium cornutum) was sev. on P. decora at Clearwater Bay, Ont. (W.L. Gordon).

Lime-induced Chlorosis was common in the Winnipeg, Man. area (B.P.).

#### QUERCUS - Oak

Leaf Blister (Taphrina caerulescens). Slight infections were observed at Ste. Anne de la Pocatiere, Que. (L.J. Coulombe).

#### RHAMNUS - Buckthorn

Crown Rust (P. coronata), A mod. infection was seen on R. frangula at Guelph, Ont. (D.W.C.). Light infections occurred on R. alni-folia and R. cathartica at Fredericton and Moncton, N.B. (G.B.O., R.H.E.B.) (C.P. D.S., 40:2. 84, 94. 1960).

#### RHODODENDRON - Azalea

Rose Bloom (Exobasidium vaccinii). Specimens of affected azaleas were received from Gibson's Landing and Mission City, B.C. (H.N.W. T.).

#### RIBES - Flowering Currant

Anthraxnose (Gloeosporidiella variabilis (Laub.) Nannf.) was sev. on a hedge of R. alpinum in Rockcliffe Park, Ont. Specimens filed in DAOM from Liverpool, N. S., Montreal, Que. and Ottawa, Ont. under Gloeosporium ribis, Pseudopeziza ribis and Drepanopeziza ribis seem to belong here. The few records and specimens at hand suggest a recent introduction into eastern Canada (D.B.O. Savile). It affected 100% of the plants in a young hedge at Ottawa, Ont. (D.W.C.), and was sev. on R. alpinum in a nursery at Chaudiere Bassin, Que. (D.L.).

Leaf Spot (Septoria ribis) was mod. on R. alpinum in a nursery at Chaudiere Bassin, Que. (D.L.).

Powdery Mildew (Sphaerotheca mors-uvae) was sl, in a nursery at Chaudiere Bassin, Que. (D.L.).

## ROSA - Rose

Bud Rot (Botrytis cinerea). Specimens of a bush rose from Sydney, N.S. was sev. affected (J.F.H.).

Black Spot (Diplocarpon rosae). Some sev. infections were seen in Saskatoon, Sask. (R.J. Ledinghatn). Specimens were received from Lotbiniere and Lake St. Joseph, Que. (D.L.). It was sl. at Fredericton and several other localities in N.B. (G.B.O.) (C.P.D.S. 40:2. 70. 1960). and a 60% infection was seen at St. Andrews, N.B. (S.R.C.), Some unsprayed varieties were defoliated at Kentville (J.F.H.) and at Bridgetown, N.S. (D.W.C.). Infection ranged from sl. -sev., depending on variety, in a large planting in a nursery at Bunbury, P.E.I. (D.W.C.).

Leaf Spot (Mycphaerella rosicola). Infection was 40% at Woodstpk and the disease also was observed in eastern N.B. (G.B.O.) (C.P.D.S. 40:2. 69. 1960).

Rust (Phragmidium spp.) was mod. on young stems at Morden, Man. in close proximity to abundant telia on over-wintered stems. Rust was destructive in the same planting in 1959 (W.A.F. Hagborg). Specimens were seen from Perth, Ont. and the disease was reported to be prevalent in that area (H.S.T.). Infection was tr. -sl., depending on variety, in large planting at Bunbury, P.E.I. and was heavy on hybrid tea roses at Bridgetown, N.S. (D.W.C.).

Powdery Mildew (Sphaerotheca pannosa) was mod. on 2 plants of Talisman in an Ottawa, Ont. garden (D.W.C.). It was commonly found but rarely serious in N.B. (S.R.C.), (G.B.O.) (C.P.D.S. 40:2. 70. 1960). Ramblers at Wolfvite, N.S. were severely affected (D.W.C.).

Mosaic (virus). A single plant of Talisman in a home garden at Ottawa, Ont. has exhibited mod. symptoms for the past 2 years (D.W.C.). A few plants of Grussen Teplitz were affected at Fredericton, N.B. (G.B.O.) (C.P.D.S. 40:2. 67. 1960).

Iron Deficiency. Mod. chlorosis of roses was commonly encountered in the Winnipeg, Man. area (W.L.G.).

## SALIX - Willow

Blight (Fusicladium saliciperdum). Specimens of infected S. babylonica were received from Agassia, B.C. (H.N.W.T.), It was reported on S. pentandra from Ste. Foy, on S. babylonica from Carleton and Three Rivers and on undetermined Salix spp. from St. Laurent, Ile Orleans, Quebec City and Rouyn, Que. (D.L.). Infection was very heavy at St. Germain, St. Roch and Ste. Anne de la Pocatiere, Que. (L.J.C.). Severe defoliation occurred on French willows at Grand Pre (K.A.H.), and nr. Annapolis Royal, N.S. (D.W.C.). Willows in a nursery at Bunbury, P.E.I. were sev. affected and defoliated (D.W.C.).

Nüesch (Phytopath Zeits, 39: 349. 1960) has described the perfect state for this fungus and assigned it to the genus Venturia as V. saliciperda Nüesch. He also points out that the conidial stage is properly assigned to Pollacia saliciperda (All. & Tub.) v. Arx, (D.W.C.).

## SPIRAEA

Coral Canker (Nectria cinnabarina). Specimens were received from Champlain, Que. (U.L.).

## SYMPHORICARPOS - Snowberry

Powdery Mildew (Microsphaera diffusa) was general on S. albus on the U.B.C. campus, Vancouver, B.C. A few cleistothecia were present (H.N. w.T.).

## SYRINGA - Lilac

Powdery Mildew (Microsphaera penicillata (Wallr. ex Fries) Lev. = M.alni (Wallr.) Salmon). Infection was heavy on a few young bushes of S. vulgaris in an Ottawa, Ont. garden (D.W.C.). It appeared late in most N.B. localities (G.B.O.) (C.P.D.S. 40:2, 69. 1960).

Bacterial Blight (Pseudomonas syringae). Specimens were received from several coastal areas of B.C. (W.R.F.). It was present on about half of the lilacs in a variety planting at the Research Station, Fredericton, N. B. Cankers were numerous and in some cases extensive (D.W.C., K.M.G.).

Ring Spot (? virus). Distinct virus-like symptoms were displayed on several branches of a bush at Kelowna, B.C. (G.E. W.).

Chlorotic Line Pattern (? virus). Line-pattern symptoms, accompanied by foliar necrosis, are sev. annually on a shrub of the Mme. Lemoigne variety at Summerland, B.C. Most leaves are killed by mid-summer. A neighboring bush of Persian lilac has a chlorotic flecking of the leaves (M. F. W.).

## TAXUS - Yew

Root Rot and Dieback (Phytophthora sp.) killed several trees in a hedge at Vancouver, B. C. (H.N. W. T.).

Chemical Injury. The effects of 2, 4-D, used on a lawn at Vancouver, B.C. caused new growth to be flaccid and to droop (H.N. W.T.).

## TILIA - Linden

Leaf Spot (Cercospora microsora). Infection was heavy on 3 trees of T. americana and premature defoliation had begun in early Aug. at Bridgetown, N.S. (D. W. C.).

Anthracnose (Gnomonia tiliae). Infected specimens of T. americana were received from Les Ecureuils, Portneuf Co. , Que. (D.L.). It was mod. on several trees of T. europaea in a nursery at Bunbury, P.E.I. and on street trees of T. cordata at St. John's, Nfld. (D. W. C.).

Spot Anthracnose (Elsinoe tiliae). Infection was mod. on 12 trees of T. platyphyllos at Bridgetown, N.S. (D. W. C.).

Powdery Mildew (Uncinula clintonii) was sev. on sucker leaves at the base of a large tree of T. americana at Blue Sea Lake, Que.(J.A.P., W.B. Kendrick).

ULMUS - Elm

Coral Canker (Nectria cinnabarina) killed 20/24 2-year old plants of U. pumila in a hedge at Ottawa, Ont. (P.B.), and was destructive in a hedge of the same species at Fredericton, N. B, (D.W.C.).

VIBURNUM

Wilt (Verticillium albo-atrum) affected Viburnum sp. at Harrow, Ont. (A.A.H.).