

V. DISEASES OF TREES AND SHRUBS

ACER - Maple

Tar spot (Rhytisma punctatum) was observed on A. macrophyllum at Hope, B.C. (H. N. W. Toms).

Twig canker (Steganosporium pyriforme). A specimen on A. saccharum was received from Thetford Mines, Que. (D. Leblond).

Powdery mildew (Uncinula bicornis) was collected on A. macrophyllum on the University Campus, Vancouver, B. C. (H. N. W. T.).

Chemical injury. The malformation of leaves and shoots of A. negundo that occurred throughout the agricultural regions of Man. and Sask. is believed to be caused by 2,4-D (C.G. Riley, V. Hildahl).

Deterioration. Dead and dying sugar maples were conspicuous along roadsides in s. Ont. Numerous factors, including weather conditions, are involved in this deterioration (B. W. Dance, D. F. Lynn).

Frost injury. Specimens were received from Charlesbourg and Petite Rivière, Quebec Co, and from McMasterville, Chambly Co., Que. (D. L.).

Leaf scorch. In s. Ont., leaf scorch was common on shade trees, particularly sugar maples (B. W. D., D. F. L.). It was also observed on maples in some areas of Que. (G.B. Ouellette).

AESCULUS - Horsechestnut

Leaf blotch (Guignardia aesculi) caused mod. damage to 1 tree of A. hippocastanum at Deer Island, N.B. (K. M. Graham). It was widespread in N. S. and P. E. I. and occasionally caused mod. -sev. damage (A. W. Chiko, A. G. Davidson & W. R. Newell). Considerable defoliation followed infection at Kentville, N. S. (C. O. Gourley)

Defoliation (excess moisture) occurred on several well-established trees in a low-lying lawn at Vancouver, B. C. with a high water table. The trees subsequently recovered (H. N. W. Toms).

AMELANCHIER

Fire blight (Erwinia amylovora) was recorded at Reesor Lake, Alta. (J. A. Baranyay, R. J. Bouchier).

Leaf blight (Fabraea maculata). Severe infections were seen at Cascumpeque, P. E. I. (A. W. Chiko, A. G. Davidson, W. R. Newell).

Rust (Gymnosporangium clavipes) was very heavy on A. alnifolia (Saskatoon berry) in Man. (B. Peturson). Twenty % of the fruits were infected at St. John's, Nfld. (O.A. Olsen).

AUCUBA

Leaf spot (Botrytis cinerea) Ten plants of A. japonica imported from Holland showed blackish-brown, circular to oval areas, one-half - one inch in diameter. B. cinerea was consistently isolated from the spots (R. G. Atkinson).

BERBERIS - Barberry

Leaf spot (Phyllosticta berberidis). Infection was seen of Berberis sp. at St. Joachim, Montmorency Co., Que. (G. Olan).

Rust (Puccinia graminis) was heavy on native barberries, B. vulgaris in e. Ont, (D. W. Creelman).

BETULA - Birch

Rust (Melampsorium betulinum), Specimens were received from Matane Que. (J. Santerre).

CITRUS

Iron deficiency. Twenty plants of Meyer's orange in a greenhouse at Vancouver, B. C. showed a yellowing of the leaf tissue adjacent to the veins (H. N. W. Toms).

CAMELLIA

Leaf spot (Hendersonia sp.). About 1% of 1000 rooted cuttings of C. japonica from a nursery in Oregon were affected at Victoria, B. C. Lesions were sporulating abundantly. Mod. -sev. leaf spotting also occurred on a shrub at Salt Spring Island, B. C. (R. G. Atkinson).

CRATAEGUS -, Hawthorn

Fire blight (Erwinia amylovora) was recorded at Elkwater, Alta. (J. A. Baranyay, R. J. Bouchier). Four trees were infected in a nursery nr. Montreal, Que. (J. Riquet).

Leaf blight (Fabraeamaculata) is particularly common in the north shore residential districts of Vancouver, B.C. where it causes up to 75% defoliation. Control measures are difficult due to a lack of proper spraying equipment. Specimens were also received from Fitt Meadows, Chilliwack and West Vancouver (H. N. W. Toms). A mod. infection was seen at Ottawa, Ont. (D. W. Creelman).

FHAXINUS - Ash

Anthracnose (Glocosporium aridum) caused extreme browning of leaves of F. americana at Wcymouth, N. S. (A. W. Chiko, A. G. Davidson, W. R. Newell).

Rust (Puccinia sparaganioides) caused sev. damage to F. americana between Round Hill, Annapolis Co. and Digby, N. S. (A. W. C. , A. G. D. , W. R. N.).

HEDERA - Ivy

Leaf spot (Ramularia hedericola) was sl. on 5 plants of H. colchica var dentata imported from Holland at Victoria, B. C. The pathogen fruited in a moist chamber (R. G. Atkinson).

JUNIPERUS - Juniper

Rust (Gymnosporangium clavariaeforme). Telial horns developed in abundance on J. communis in the Edmonton, Alta. district. (W. P. Skoropad).

Trellis rust (Gymnosporangium fuscum). A survey in the Victoria, B. C. area revealed the presence of G. fuscum on the following Juniperus species and varieties: J. chinensis L, var. plumosa Hornibr., J. sabina L. var. sabina, J. sabina L. var. tamariscifolia Ait. , J. sabina L. var. variegata (West) Audib., J. squamata Lamb var. fargesii Rehd. & Wils., J. squamata Lamb var meyeri Rehd. and J. squamata Lamb var. prostrata Hornibr. (W. R. Foster).

LONICERA - Honeysuckle

Leaf blight (Herpobasidium deformans) was present on Lonicera spp. in nearly all the nurseries examined in Que. in 1962 (J. Riquet). Infection was sev. on a hedge of L. tatarica at Caplan, Que. (D. Leblond).

MALUS - Ornamental Crab

Scab (Venturia inaequalis). Infection was mod. in a nursery at Quebec City, Que. (G. B. Ouelette),

PARTHENOCISSUS - Ivy

Leaf spot (Phyllosticta viticola), Infection was heavy on P. tricuspidata at Orsainville, Que. (D. Leblond).

Downy mildew (Plasmopara viticola) was observed, for the first time in Man., on P. quinquefolia at Winnipeg (R. G. Kenneth).

PHOTINA

Powdery mildew (Oidium sp). The oidial stage was seen at Victoria, B. C. on P. serrulata imported from Holland (R. G. Atkinson). Sphaerotheca pannosa is reported on this host from Oregon (U. W. C.).

PITTOSPORUM

Leaf spot (Phyllosticta sp.) was mod. at Victoria, B. C. on all plants of P. tobera in a shipment from Washington state. The fungus was isolated (R. G. Atkinson).

PRUNUS - Native and Flowering Cherries

Black knot (Dibotryon morbosum) was found on P. padus commutata at Morden, Man. P. pensylvanicum was mod. -sev. infected on Campobello Island, N. B. and at Goff's Corner, N. S. It was sev. on plum at Ashmore and on P. virginiana at Avonport, N. S. (A. W. Chiko, A. G. Davidson, W. R. Newell). Black knot was reported on domestic and wild cherry in all areas of Nfld, with the most sev. infections occurring in the western part of the province (W. J. Carrol).

Brown rot (Monflinia demissa) produced leaf infections, particularly of the petiole and midrib, on P. virginiana var demissa at Chase, Kettle River and Deer Park, B. C. It appears to be fairly widespread in the Interior of B. C. (L. E. Lopatecki).

Bacterial canker (Pseudomonas syringae) was reported on Japanese cherry in 2 gardens in North Vancouver, B. C. (H. N. W. Toms).

Leaf spot (Septoria pruni), Infection was very heavy causing 50% defoliation of P. virginiana at Port Morien, N. S. (C. O. Gourley).

Coryneum blight (Stigmina carpophila) is common in neglected hedges of P. lauro-cerasus in the Vancouver, B. C. area. (H. N. W. T.).

Witches' broom (Taphrina cerasi) was observed on P. pensylvanicum at Kentville, N. S. (K. A. Harrison).

Frost damage. Most flowering tips of dwarf double flowering almonds, P. glandulosa, were killed in some Vancouver, B. C. gardens in Feb., 1962 (H. N. W. T.).

PYRUS - Mountain Ash

Fire blight (Erwinia amylovora). In n. and c. Alta, incidence of fire blight was about the same as in 1961 (W. P. Skoropad). It was sev. on P. americana in 2 gardens in Lethbridge and in one each at Three Hills and Cardston in s. Alta. (F. R. Harper, P. E. Blakeley). Slight infections were recorded at Winnipeg, Man. (B. Peturson).

Rust (Gymnosporangium cornutum). Infection of P. americana was heavy at Matlock, Man. (B. P.). Heavy infections were seen on a few trees in the St. John's, Nfld. district (O. A. Olsen).

Lime-induced chlorosis **was** sev. on several trees in the Winnipeg, Man. area (W. L. Gordon).

QUERCUS - Oak

Powdery mildew (Microsphaera penicillata). Specimens on Q. robur were received from Yarrow, B. C. (W. N. W. Toms).

Leaf blister (Taphrina caerulescens). Severe infections were seen on Q. rubra at Quebec City, Que. (G. B. Ouelette).

Excess moisture. Several trees of Q. rubra on the University Campus, Vancouver, B. C. were affected. Foliage yellowed and then developed brown necrotic spots. Partial defoliation followed (H. N. W. T.).

RHAMNUS - Buckthorn

Crown rust (Puccinia coronata) Infection of R. frangula at Ottawa was lighter than in 1961 (D. W. Creelman). It was mod. on R. cathartica at Pokiok, York Co., N. B. (S. R. Colpitts).

RHODODENDRON

Shoot gall (Exobasidium vaccinii) caused hypertrophy of terminal shoots of 2/100 plants from Holland at Victoria, B. C. (R. G. Atkinson).

Leaf spot (Gloeosporium rhododendri) was mod. - sev. on 10 imported plants at Victoria, B. C. (R. G. A.)

RHUS - Sumac

Verticillium wilt; (V. albo-atrum) affected a few trees of R. typhina at Charlottetown, P. E. I. The trees first showed sev. wilt symptoms and then died (C. B. Willis).

RIBES - Flowering Currant

Anthracnose (Gloeosporidiella variabilis) was general on R. alpinum in the Ottawa area. In some instances sev. infections resulted in heavy defoliation (H. S. Thompson). It was encountered in 13 nurseries in Que. Infections were rated 7-sl, 4-mod. 2-sev. (J. Riquet). Anthracnose was recorded at Chicoutimi, Que. (G. Oulah).

ROSA - Rose

Crown gall (Agrobacterium tumefaciens). Ten % of the plants in a greenhouse at Falmouth, N.S. were infected (C. O. Gourley) and a single infected plant was seen in a greenhouse at Bridgewater, N. S. (K. A. Harrison).

Gray mold (Botrytis cinerea). Infected samples from Quebec City were received in July (D. Leblond).

Canker (Diaporthe eres). A large shipment of roses from Holland arrived in N. S. in a very wet condition. D. eres was isolated from numerous cankered areas and dead spurs (K. A. H.).

Black spot (Diplocarpon rosae) caused sev. defoliation of hybrid tea roses at Norwood Grove, Man. (W. A. F. Hagborg). Mod. -sev. infections were also seen on hybrid teas at Fort Garry and Winnipeg, Man. (B. Peturson). Specimens were received from St. Andrews, N. B. (S. R. Colpitts).

Canker (Leptosphaeria coniothyrium). At Bridgewater, N. S. infections occurred in a number of plants where blooms had been cut and a stub left. Plants were weakened and some branches were dying (K. A. H.).

Coral canker (Nectria cinnabarina). A profusely sporulating specimen was received from Coburg, Ont. It could not be determined whether or not the Nectria was the cause of the canker or whether it was secondary. It has not been previously reported on rose in Canada (D. W. Creelman).

Rust (Phragmidium spp.). P. americanum and P. subcorticinum were identified on specimens received from Trois Pistoles, Que. (D. Leblond)

Powdery mildew (Sphaerotheca pannosa) was sev. in a garden at Lethbridge, Alta, (P. E. Blakeley). Specimens with heavy infection of the buds were received from Thetford Mines, Que. (D. L.). Powdery mildew was unusually sev. on susceptible rose varieties in Kings Co., N. S. in 1962. In most cases leaves were curled and browned. Bloom was sparse and often badly distorted (C. O. G.). Infection was sev. on the climber, Dorothy Perkins, at St. John's, Nfld. (O. A. O.).

SALIX - Willow

Canker (Cytospora chrysosperma) killed twig growth of S. niobe at Sardis, B. C. (R. G. Atkinson).

Coral canker (Nectria cinnabarina) caused 10% damage on S. alba var. tristis at La Durantaye, Que. (G. Olan'h).

Scab and Blight (Polaccia saliciperda, Physalospora miyabeana) continued, to intensify in previously infected areas in the Fraser River Valley, B. C. (A. C. Molnar) P. saliciperda affected 5% of shrubs of Salix purpurea nana in a nursery at Drummondville (J. Riquet) and 15% of S. alba var. tristis at La Durantaye, Bellechasse Co., Que. (G. Olan'h). The two organisms also caused sev. damage to willow hedges at Haute-Rive, St. Romuald and Ste. Anne de Beaupré, Que. (G. B. Ouelette). Damage was generally light in the Maritime Provinces (A. W. Chiko, A. G. Davidson, W. R. Newell). Some disease developed on trees and young sucker growth late in the season in N. S. (K. A. Harrison),

SPIRAEA

Lime-induced chlorosis was commonly encountered and caused damage to Spiraea and other shrubs in the Winnipeg, Man. area (W. L. Gordon).

SYRINGA - Lilac

Gray mold (Botrytis cinerea) infected 40% of the blooms in 4/4 plantings at Ste. Foy, Que. (G. Olan'h).

Bacterial blight (Pseudomonas syringae) caused sl. damage to lilacs at Elm Creek, Man. (B. Peturson, W. A. F. Hagborg).

Wilt (Verticillium albo-atrum) infected 40% of the plants in 4/4 plantings at Ste. Foy, Que. (G. O.).

THUJA - Cedar

Browning (Winter drying). Specimens were received from Lotbinikre, Plessiville and Carleton, Que, (D. Leblond),

TILIA - Linden

Coral canker (Nectria cinnabarina). This organism was found associated with cankers on a number of European lindens at Ste. Foy, Que. (G.B. Ouelette).

ULMUS - Elm

Dutch elm disease (Ceratocystis ulmi). The known limits of the disease in s. Ont, were extended northw'ard to a line between Key Harbor and La Cave (B. W. Dance, D. F. Lynn). A considerable northwest extension of distribution was made in Que., with the discovery of diseased trees at new localities in Temiscouata and Bonaventure counties (G. B. Ouelette). A diseased tree was found at Tidehead, Restigouche Co., N. B. The disease is now known in 7/15 N. B. counties (A. W. Chiko, A. G. Davidson, W. R. Newell).

Black spot (Gnomonia ulmea). Chinese elm hedges and trees were frequently attacked in the Ottawa, Ont. district with damage ranging from sl, -sev. (P.K. Basu, H. S. Thompson).

Coral canker (Nectria cinnabarina). Mod. damage was observed on a hedge of U. pumila at Quebec City and specimens were received from Three Rivers and Luceville (D. Leblond). Several Chinese elms were killed by canker in the Cornerbrook area, Nfld. (W. J. Carrol),

Leaf spot (Phyllosticta melaleuca) was sl, on U. americana at Montreal, Que, (G. Ouelette).

VIBURNUM

Bacterial spot (Pseudomonas viburni). Infection was sl, on a few shrubs of V. carlesii at Village des Aulnaies, l'Islet Co., Que. (J. Riquet)

VI. DISEASES OF HERBACEOUS ORNAMENTALS

ALTHAEA - Hollyhock

Rust (Puccinia malvacearum) occurred in varying degrees of severity throughout the Okanagan Valley, B. C. (G. E. Woolliams). It was sev. in a garden at Lethbridge, Alta. (T. G. Atkinson). Specimens were received from several locations in Que. (D. Leblond, J. Santerre)