

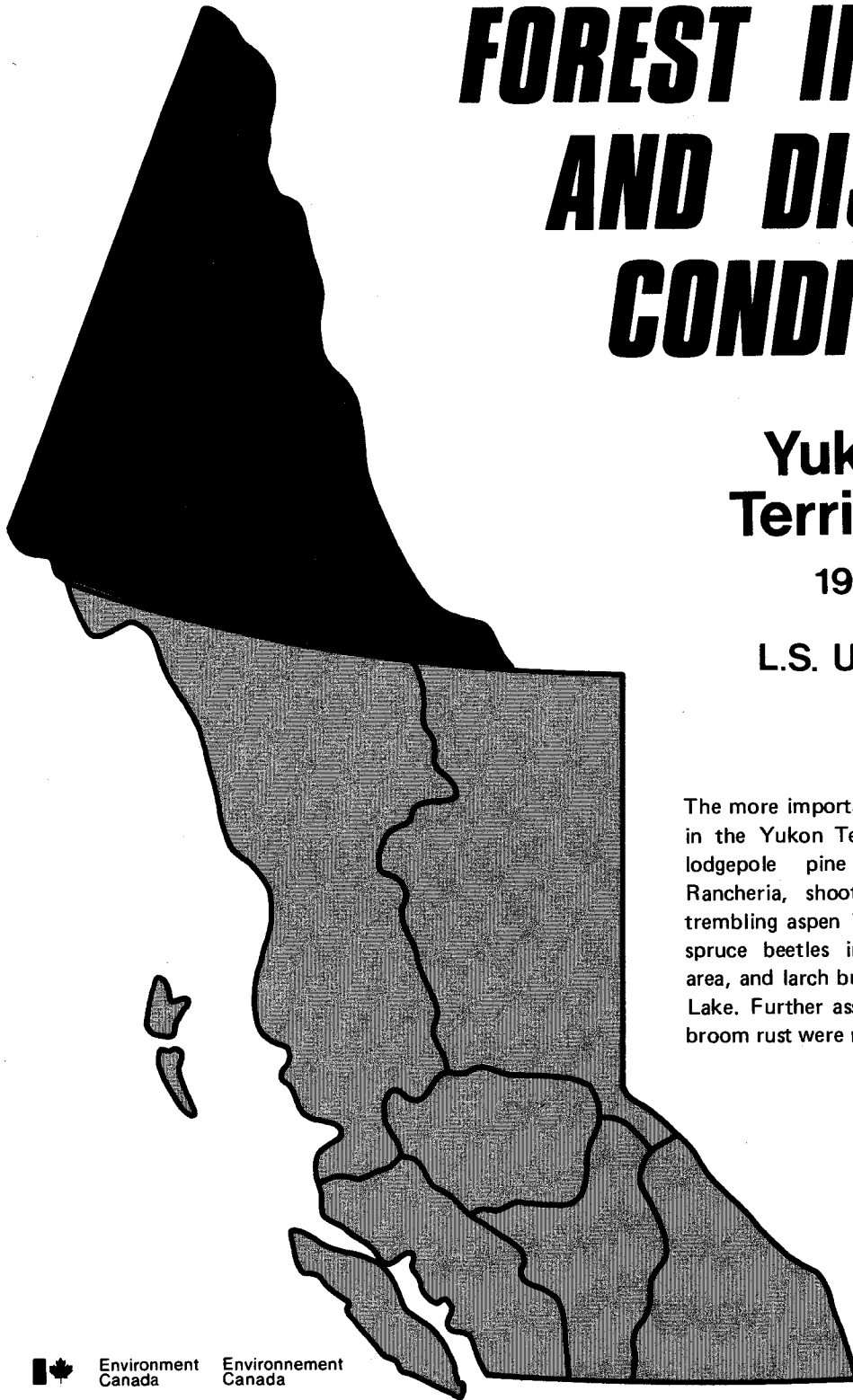
FOREST INSECT AND DISEASE CONDITIONS

Yukon Territory

1977

L.S. Unger

The more important forest pest problems in the Yukon Territory in 1977 were a lodgepole pine needle blight near Rancheria, shoot and leaf blights on trembling aspen in the southern portion, spruce beetles in the Haines Junction area, and larch budmoth north of Watson Lake. Further assessments of the spruce broom rust were made.

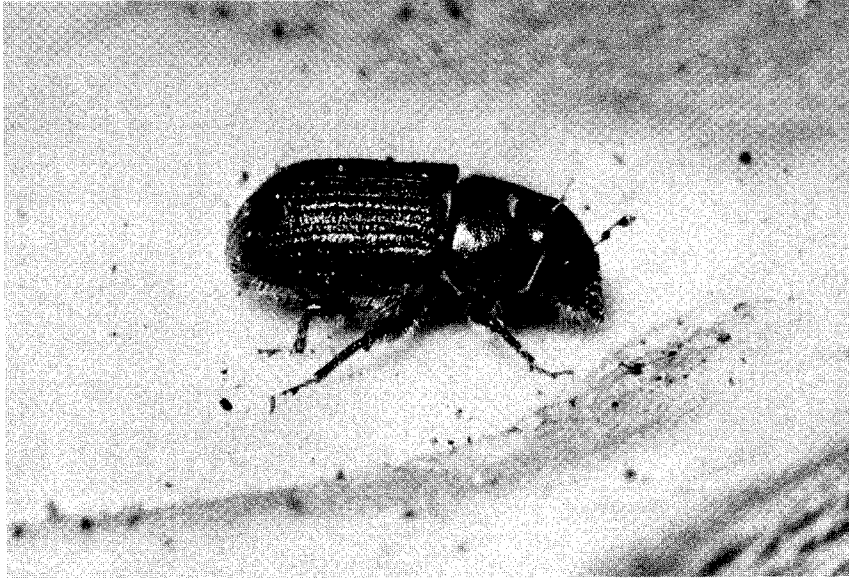


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Spruce beetle adult



Spruce beetle galleries

SPRUCE BEETLE,
Dendroctonus rufipennis

The spruce beetle population in the Haines Junction District continued a gradual increase. In the Marshall Creek area, the average number of attacks per $.1 \text{ m}^2$ of bark on the underside of wind-fall trees increased to 10 from 6 in 1976. One hundred hectares of white and black spruce weakened by flooding from the Aishihik power project canal are attracting spruce beetle. An average of 6.5 attacks per $.1 \text{ m}^2$ of bark sampled was found near the base of the larger trees.

Because of the mild winter of 1976-77, the overwintering beetle survival was excellent, and indicates a further increase in the population in 1978.

LARGE ASPEN TORTRIX
Choristoneura conflictana

The main concentration of the large aspen tortrix was around Carmacks. Almost total defoliation of aspen occurred in early summer in this area, but by mid-July the trees had refoliated to 40% of their normal foliage. There was also some light feeding at km 345 to 352 along Highway 2.

A LARCH BUDMOTH,
Zeiraphera improbana

Defoliation by the larch budmoth continued in the Hyland River Valley for the third consecutive year. Moderate to severe defoliation occurred along Highway 10 from km 80 to 128, where collections averaged 282 larvae. Light defoliation occurred from km 10 to 80. There was only light defoliation along Highway 9 between Watson and Frances lakes, where the most severe defoliation occurred in 1976.

SPRUCE BROOM RUST,
Chrysomyxa arctostaphyli

The study on volume loss of white and black spruce owing to spruce broom rust, a common problem in the District, continued in 1977. Ten additional random locations were sampled, with no attempt being made to locate samples in infected stands; whereas in 1976, locations were chosen to provide a range of infection. By using the 1977 figures, 7.9% of the white and black spruce sampled were infected. Radial increment loss of 20% per year is assumed when three or more brooms are present on a tree; 1.7% of the trees were in this category. Other forms of damage such as dead, broken or multiple tops appeared on 20.7% of the infected trees, compared to 6.6% of the non-infected trees. Incidence of basal decay varied little between infected and non-infected trees, but infection centers for decay organisms are created on the trees as a result of broken tops and branches.

WEATHER DAMAGE

Late spring frost caused distorted foliage and some twig mortality of aspen along the Stewart River from km 27 on Highway 3 to km 354 on Highway 2, and along Highway 2 between Stewart Crossing and Carmacks. Trees of all ages on the south- and southwest-facing slopes were affected. Presumably, with the mild winter and early warm spring weather, the buds developed too early and were vulnerable to a late spring frost.



A lodgepole pine needle cast

A LODGEPOLE PINE NEEDLE CAST,
Lophodermella montivaga

This needle cast caused extensive discoloration and defoliation of young lodgepole pine on approximately 4 800 ha in the Rancheria River Valley. The main area of infection extended from km 1 110 to 1 148 along the Alaska Highway. Infection ranged from 5% of the foliage on 40% of the trees to 85% of the foliage on 90% of the trees. The area at km 1 140-42 was severely infected in 1976, resulting in almost total foliage loss during these 2 years.

Light infection was also common on young lodgepole pine at km 1 070 of the Alaska Highway and along the Campbell Highway to km 96.

FLOODING DAMAGE

Trees were drying out and turning color owing to a frozen root system during warm weather. The problem originated from a leakage in the water canal leading to the Aishihik power plant. The leakage continued through the fall and winter, causing a thick build-up of ice on the forest floor; there was still 60 cm of ice at the beginning of July. With the roots unable to absorb moisture to replace the moisture lost in transpiration, the foliage dried out and turned red. One hundred hectares of white and black spruce were affected. These weakened trees were attacked by spruce beetle.

ASPEN FOLIAGE DISEASES

Foliage diseases on deciduous trees were common this year, especially in the southern Yukon. An aspen shoot blight, *Venturia tremulae*, was prevalent on young trees in the Watson Lake, Frances and Rancheria rivers regions. On older aspen, the most common foliage disease was *Marssonina populi*, a leaf and shoot blight, which caused browning of foliage on a number of .5- to 3-ha patches in the Watson Lake area.



Aspen shoot and foliage blight

Some Pests of Current Minor Significance

Pest	Host (s)	Locality	Remarks
<u>Acleris gloverana</u> Western blackheaded budworm	Spruce, white and black	General	Defoliator; 32% of collections positive with average of 2.5 larvae per sample.
<u>Pikonema</u> spp. Spruce sawflies	Spruce, white and black	General	Defoliator; 35% of collections positive with average of 1.3 larvae per sample.
<u>Zeiraphera destitutana</u> A spruce budmoth	Spruce, white and black	Watson Lake	Common in low numbers.
<u>Ceratocystis</u> sp.	Spruce, white	Kusawa Lake	Blue stain fungus causing some tree mortality.
<u>Coniophora puteana</u>	Spruce, white	Kluane Lake	Brown cubical rot; caused some tree mortality.