A NEW RECORD OF DWARF MISTLETOE ON LODGEPOLE AND WESTERN WHITE PINE

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From various collections examined at the University of British Columbia the writer has for some time suspected the occurrence of dwarf mistletoe, *Arceuthobium campylopodum* Engelm., on lodgepole pine (*Pinus contorta* Dougl. ex Loudon) in the Pacific Coast region of British Columbia. Observations in the field in 1954 confirmed these suspicions, this mistletoe being found not infrequently in stands or small groups of lodgepole pine on the eastern part of Vancouver Island as far north as Comox, and also on this host near Sechelt on the mainland.

Both the occurrence and the symptoms of this host-parasite combination indicate some interesting parallels with those of the larch mistletoe-lodgepole pine combination.[1] Brooming is almost completely absent, except where the infections are so abundant that branches appear stunted in part of the tree. The swellings produced are fusiform, the older ones becoming markedly elongated and attaining a considerable size.

Near Horne Lake, on Vancouver Island, a single small tree of western white pine (*Pinus monticola* Dougl.) also was found to bear dwarf mistletoe shoots protruding from fusiform to spherical swellings on the branches and main stem. The mistletoe is believed to be the same as that on the lodgepole pine, which locally formed a heavily infected overstory.

Although its morphology leaves no doubt as to its inclusion in *Arceuthobium campylopodum,* the intraspecific identity of the mistletoe occurring on these two species of pine is questionable. This species is at present subdivided into forms, such as f. *tsugensis,* f. *laricis,* f. *blumeri,* etc., exclusively on the basis of host relationships, no consistent morphological differences as yet having been found. No one form is known to be restricted to lodgepole pine; both f. *laricis* and f. *campylopodum* have been found on this host. From the very nature of the present classification, it is therefore impossible to identify, below the specific level, the mistletoe here reported. The plants on *Pinus monticola* could possibly be referred to f. *blumeri,* which is said to be restricted to white pines. The conditions under

[1] Kuijt, J. Some notes on the larch mistletoe in British Columbia. Can. Dept. Agr. Forest Biol. Div., Bi-monthly Progress Rept. 10(6). 1954.

EXPLANATION OF FIGURE 1

FIG. 1. *Arceuthobium campylopodum* infections. A. On lodgepole pine (*Pinus contorta*) at Horne Lake, Vancouver Island. Although literally hundreds of infections are present on the tree, and practically all larger branches are infected, only the lower ones show any signs of brooming. B. Typical swellings on lodgepole pine near Qualicum Beach, Vancouver Island. C. On lodgepole pine. Close-up of female plant, with mature, recurved berries and young flowering shoots. August. D. On Western white pine (*Pinus monticola*) near Horne Lake, Vancouver Island. Swellings on this tree seemed more severe than those on lodgepole pine. Arrows indicate small plants protruding from the swellings.

FIG. 1. *Arceuthobium campylopodum* infections.

which it was found, however, very strongly indicate that this is the same mistletoe as that on the overstory lodgepole pine. The writer prefers therefore not to assign this mistletoe to a definite form of *Arceuthobium campylopodum*.

There nevertheless remains the possibility that the mistletoe involved is no other than that on western hemlock. In some localities infected hemlock and lodgepole pine were indeed found together; in others, however, no hemlock was present. Moreover, in several mixed stands either the hemlock or the lodgepole pine was heavily infected, while no infections were found on the other host. If cross-inoculations will eventually establish that we are here concerned with hemlock mistletoe only, some explanation will be required for the apparent freedom from mistletoe in these cases.

Most of the collections of dwarf mistletoe checked in 1954 as occurring on lodgepole pine on the Pacific Coast had previously been identified as *A. americanum* Nutt. ex Engelm. However, no reliable collection of *A. americanum* from west of the Coast Range has as yet been seen by the writer. There is a distinct possibility that, at least in Canada, no *A. americanum* is present west of these mountains. This would parallel the western limits of distribution of the Douglas fir mistletoe (*A. douglasii* Engelm.), although the ranges of neither species are continuous east of this mountain system.

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PROSOPIS GLOBOSA GILL. IN BAJA CALIFORNIA

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An attractive yellow-flowered, mimosoid shrub was one of the most interesting plants found on a trip to the *Idria* forest area beyond Rosario, Baja California, Mexico, and on west from San Agustín to the Pacific Coast at Santa Catarina Landing. The plant in question proved, on our return, to baffle all attempts at identification; to be sure, it keyed to *Prosopis* or *Neptunia,* but it did not resemble any North American representative of either genus. Had fruiting material been available, I fear the plant would have been described as a new genus. For several years this troublesome shrub continued to resist the efforts of taxonomists far more competent than myself; then, by chance, I happened across a photograph of the Argentine *Prosopis globosa* Gill. (*P. striata* Benth.) and recognized it as being very similar to the Mexican plant. *Prosopis globosa* is the only species in the section *Lomentaria* Speg. (Burkart, 1940). While our Mexican plant differs in some respects from *P. globosa,* the differences are small, and it seems best to assign it to varietal status in this species. Thus, we add yet another species to the series showing close relationship