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Natural Distribution of
Western Larch and Subalpine Larch
Larix occidentalis *Larix lyallii*

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JAMES R. HABECK and GEORGE M. BLAKE

School of Forestry
University of Montana
March 1968

Montana Forest and Conservation Experiment Station
Research Note Seven **Missoula, Montana**

NATURAL DISTRIBUTION OF WESTERN LARCH AND SUBALPINE LARCH

By Gerhard M. Knudsen, Stephen F. Arno,
George M. Blake, and James R. Habeck

INTRODUCTION

The maps on the following three pages show the natural distribution of western larch (Larix occidentalis) and subalpine larch (Larix lyallii)^{1/}. Counties and prominent rivers and cities are included on the base map in order to show maximum detail.^{2/}

The distribution of the species was determined largely from personal communication with district personnel of the United States Forest Service throughout Montana, Idaho, Washington, and Oregon, the Canadian Forest Service, and several naturalists and park rangers in the United States and Canada. The authors determined a large portion of the range of subalpine larch through aerial and ground reconnaissance.

ZONES OF OCCURRENCE

Subalpine larch is generally restricted to high mountains, very near the alpine timberline. The species is most abundant on cool, moist sites. Western larch usually occurs on mesic sites in the low and mid-elevation forest zones.

Typically the two species are separated by 500 to 1000 feet elevation. However, Carlson and Blake^{3/} reported a range overlap on a recurring snowslide

^{1/} Preparation of the maps was made possible with financial assistance given by the McIntire-Stennis Fund and National Science Foundation Grant GB 5252.

^{2/} Small, isolated stands are shown by triangles.

^{3/} Carlson, C.E., and G.M. Blake. 1965. Hybridization of Larix occidentalis and Larix lyallii. Thirteenth Northeast Forestry Tree Improvement Conference: 45-49.

in the north Bitterroot Mountains of western Montana. The authors also have observed range overlap areas on snowslides and old burns in the Bitterroot Mountains and the Cabinet Mountains of northwestern Montana. The possibility of interspecific hybridization on these sites is currently under study at the School of Forestry in Missoula, Montana.

Typical zones of occurrence for the species in portions of their range are:

<u>Location</u>	<u>Western Larch</u>	<u>Subalpine Larch</u>
Eastern Oregon	3500 to 7200 feet	
Bitterroot Range, Montana	3500 to 6500 feet	7200 to 9500 feet
Cabinet Mountains	2000 to 5500 feet	6000 to 8000 feet

WESTERN AND SUBALPINE LARCH DIFFERENTIATION

Perhaps the most consistent morphological difference between the two species is the character of the current year's twigs. Twigs of subalpine larch are densely pilose, while those of western larch are nearly glabrous.

The two species can be differentiated on the basis of the bark texture within four feet of the tree top. The bark of western larch is smooth and possesses longitudinal fissures. Subalpine larch bark has a scaly appearance and possesses both longitudinal and horizontal fissures.

SCALE

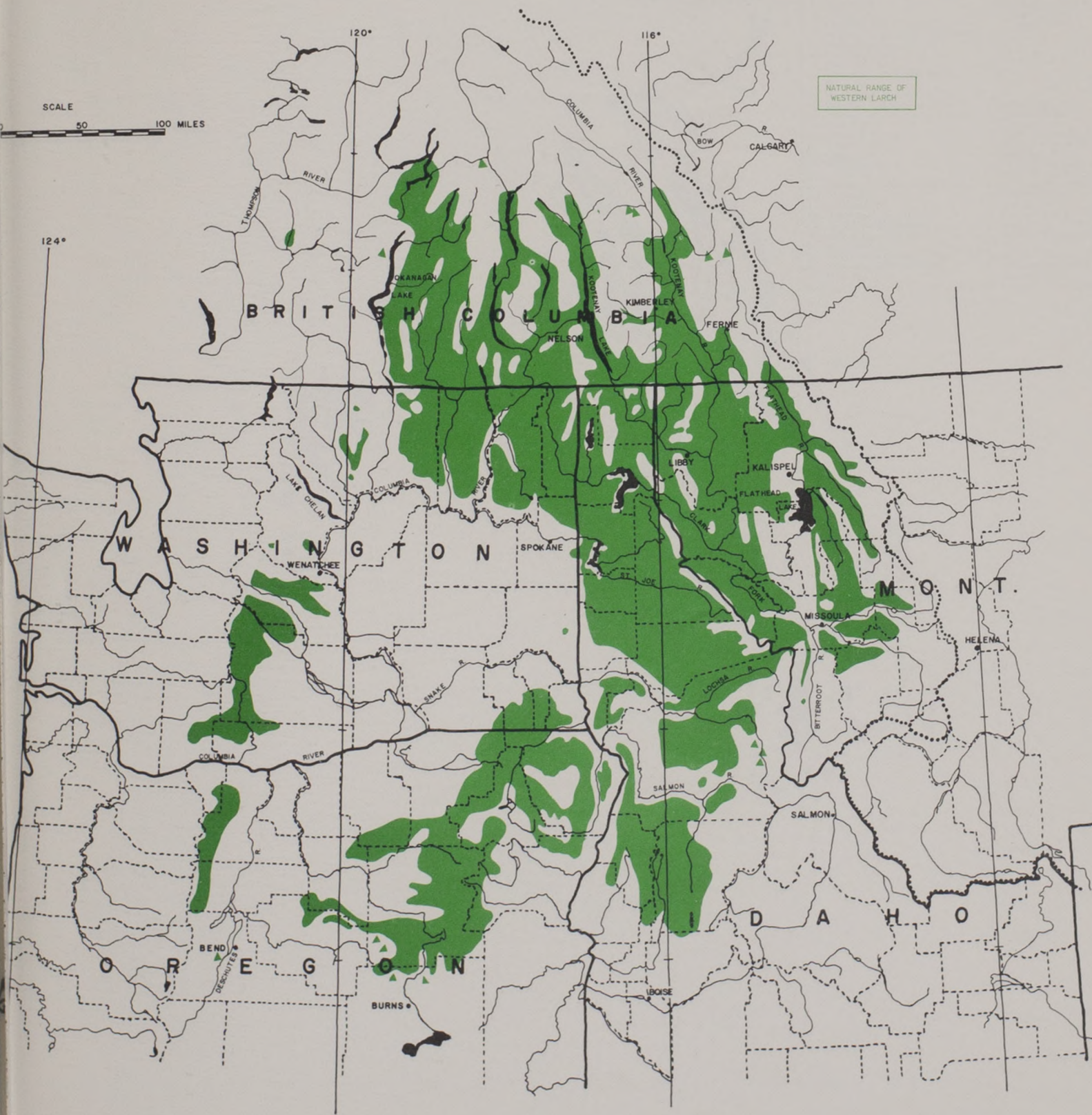
50 100 MILES

NATURAL RANGE OF
WESTERN LARCH

124°

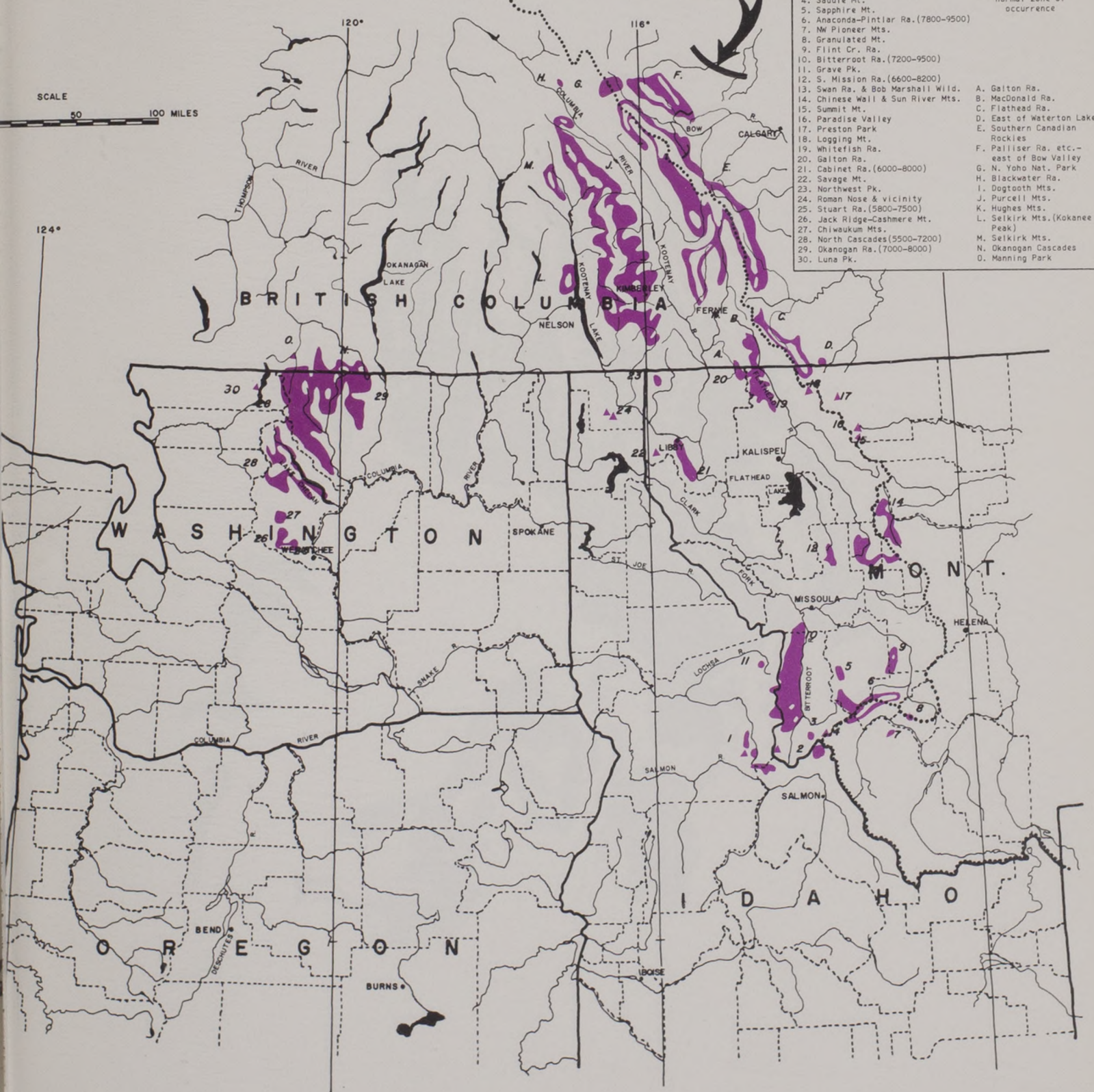
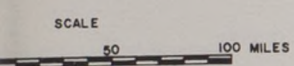
120°

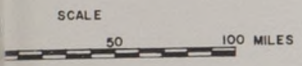
116°



**SOUTHWESTERN LIMIT OF
TAMARACK (*L. LARICINA*)**

- | | |
|---|---|
| 1. Three Prong-Salmon Mt.
Waugh Mt.-Square Top | KEY TO SUBALPINE LARCH
OCCURRENCES |
| 2. Allan Mt. | Elevations indicate
normal zone of
occurrence |
| 3. Piquett Mt. | |
| 4. Saddle Mt. | |
| 5. Sapphire Mt. | |
| 6. Anaconda-Pintlar Ra. (7800-9500) | |
| 7. Mt. Pioneer Mts. | |
| 8. Granulated Mt. | |
| 9. Flint Cr. Ra. | |
| 10. Bitterroot Ra. (7200-9500) | |
| 11. Grave Pk. | |
| 12. S. Mission Ra. (6600-8200) | |
| 13. Swan Ra. & Bob Marshall Wild. | A. Galton Ra. |
| 14. Chinese Wall & Sun River Mts. | B. MacDonald Ra. |
| 15. Summit Mt. | C. Flathead Ra. |
| 16. Paradise Valley | D. East of Waterton Lake |
| 17. Preston Park | E. Southern Canadian
Rockies |
| 18. Logging Mt. | F. Palliser Ra. etc.-
east of Bow Valley |
| 19. Whitefish Ra. | G. N. Yoho Nat. Park |
| 20. Galton Ra. | H. Blackwater Ra. |
| 21. Cabinet Ra. (6000-8000) | I. Dogtooth Mts. |
| 22. Savage Mt. | J. Purcell Mts. |
| 23. Northwest Pk. | K. Hughes Mts. |
| 24. Roman Nose & vicinity | L. Selkirk Mts. (Kokanee
Peak) |
| 25. Stuart Ra. (5800-7500) | M. Selkirk Mts. |
| 26. Jack Ridge-Cashmere Mt. | N. Okanogan Cascades |
| 27. Chiwaukum Mts. | O. Manning Park |
| 28. North Cascades (5500-7200) | |
| 29. Okanogan Ra. (7000-8000) | |
| 30. Luna Pk. | |





NATURAL RANGE OF
SUBALPINE LARCH

NATURAL RANGE OF
WESTERN LARCH

