

DISTRIBUTIONAL NOTES ON PLANTS OF
THE WARM SPRINGS AREA, OREGON

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In an earlier paper (Ornduff and French, 1958) we reported a number of distributional novelties discovered during the course of identification of nearly 2000 vascular plant specimens from the Warm Springs Indian Reservation in Oregon. This collection of plants was made in connection with ethnobotanical studies of the Chinookan (French, 1956), Sahaptin, and Paiute Indians at Warm Springs. The reservation consists of approximately 564,000 acres located in the southwest portion of Wasco County and the northwestern portion of Jefferson County in north-central Oregon. The summit of the Cascade range forms the western limit of the reservation, the Metolius River most of the southern boundary, and the Deschutes River in the central Oregon plateau the eastern boundary. The northern reservation boundary has been the subject of recent litigation and is technically farther north than indicated on most maps and marked on Highway 26. Our references in this paper are to the latter point on the highway, which we understand is located about 6.5 miles south of the junction of Highway 26 with Highway 52 (in Township 6 South, Range 10 East, Section 11, Willamette Base Line and Meridian).

Few plants from higher altitudes are represented inasmuch as most of our collecting was confined to areas visited by Indians—the yellow pine forests, wooded valley bottoms, and the treeless sagebrush and bunchgrass region. About 600 species are known to occur on the reservation, of which at least 56 are introduced. Herein we record additional novelties of distribution beyond those recorded in our first paper. Previously accepted distributional ranges are taken from such sources as Abrams (1940–51), Peck (1941), and Hitchcock, Cronquist, Ownbey, and Thompson (1955–59). In some of these works the ranges of the species are often broadly phrased and risk being over-generous. We have decided to eliminate from our list most, but not all, of those species covered by broad or ambiguous statements. It should be noted that our own discussions do not necessarily cover the total ranges of the species; unless otherwise stated, the statement of range following each species refers only to its distribution within Oregon.

We have examined specimens deposited in the herbaria at the University of Oregon (ORE), Oregon State College (OSC), University of California, Berkeley (UC), Willamette University (WILLU), and the University of Washington (WTU). We extend our thanks to the staffs of these herbaria for their many courtesies during our visits.

Our study of herbarium specimens confirmed our impression that the Warm Springs Reservation has seldom been visited by collectors. In some instances, however, we found in the above herbaria specimens from the

Warm Springs area which alter the ranges of the species as they are now known through publication. The most significant of these collections are noted in our list.

Most of our specimens were identified by the first author, but the following specialists have also assisted: the late Carleton Ball (*Salix*), Francia Chisaki (*Boraginaceae*), Lincoln Constance (*Umbelliferae*), LeRoy Detling (*Cardamine*), Marion Ownbey (*Allium*), and the late Albert N. Stewart (*Panicum*). Arthur Cronquist and C. Leo Hitchcock have provided determinations in a large number of families. We are indebted to these botanists for their assistance.

In the following list the second author's collection numbers are used and, for the most part, the specimens exist as unicates in his herbarium at Reed College. Where noted, duplicates are at the New York Botanical Garden (NY) and the Herbarium of the University of California, Berkeley (UC). Because most of the collections were not made in duplicate and are thus not incorporated in larger herbaria, we feel justified in presenting these reports of new distributional data.

NATIVE SPECIES

Panicum pacificum Hitchc. & Chase. This grass is rarely collected in Oregon east of the Cascades. Our specimen, No. 908, is from beside the Warm Springs River near the Agency-Simnasho road, Wasco County, and differs little from the coastal *P. occidentalis* Scribn., which may not be distinct. Other relevant collections: *Peck 15781* (WILLU) from Maupin, Wasco County, and *Peck 17490* (WILLU) from Imnaha, Walwola County.

Carex eurycarpa Holm. Although frequently collected on the eastern slopes of the Cascades in Deschutes and Klamath counties, this sedge is rare to the northward in central Oregon. It has been collected from the east side of Mount Hood, Hood River County, *Henderson 959* (ORE); from the Suttle Lake area, Jefferson County, *Hitchcock & Martin 4883*; and our specimen, No. 1494 (NY) is from the east bank of the Deschutes River, near the Highway 26 bridge, Jefferson County.

Allium macrum S. Wats. Published records limit this onion to the Blue Mountain region of Oregon and Washington, but the species appears to be well-distributed in our area. We collected it on Miller Flat, Jefferson County, No. 597, and on Sidwalter Flat, Wasco County, No. 1763—both near Highway 26. Other Wasco County collections: near Kent, *Baker 804* (OSC, WTU); near Shaniko, *Cronquist 6935* (OSC, WTU), *Gale 99* (WTU); eight miles south of Maupin, *Peck 26247* (WILLU).

Allium nevii S. Wats. According to Marion Ownbey (in litt.) this species is infrequently collected in Oregon. It grows north of the reservation in Wasco County (cf. *Peck 26216* (WILLU) and other collectors); we found it on Sidwalter Flat, Wasco County, No. 1811 (duplicate at Washington State University, Pullman).

ALLIUM TOLMIEI Baker. Recorded east and southeast of the reservation, this onion appears to be well-distributed in our region. Our collection is from one mile up Tenino Creek valley from the Agency, Jefferson County, Nos. 478A, 478B; also collected in this county by *Steward 6379* (OSC, WTU), Madras.

SALIX DRUMMONDIANA Barratt var. *SUBCOERULEA* (Piper) Ball. In Oregon, this species is rarely collected. Peck (1941) lists it only from the Wallowa Mountains, but our specimens are from thickets above Shitike Creek, near the Agency, Jefferson County, Nos. 40, 1291A, 1291B; also collected in Deschutes County, *Whited* in 1907 (OSC) and Grant County, *Henderson 5165* (ORE).

ATRIPLEX CONFERTIFOLIA (Torr.) S. Wats. A member of the Great Basin flora which is sparingly represented on the reservation, this species is known from a considerable distance east of Warm Springs in Wheeler County. It appears to reach its northwestern limit on the reservation, where it grows with *Sarcobatus vermiculatus* (Hook.) Torr. on an alkaline flat in Wolfe Hollow, No. 1287.

ACER CIRCINATUM Pursh. Though found mainly to the west of the Cascades, this maple is commoner on the eastern slopes than previously suspected. It is frequent near Beaver Creek (No. 353 came from the north boundary, Wasco County) and occurs along water courses traversing the more arid parts of the reservation. No. 205 was collected less than two miles west of the Agency, near Shitike Creek, Jefferson County. Other collections noted in herbaria are from scattered localities in Jefferson and Wasco counties. Warm Springs Indians say that they formerly obtained the tough wood locally and used it for fishing net hoops.

ANGELICA CANBYI Coult. & Rose. This species has not been reported from the Warm Springs region, where we have collected it south of Simnasho, Nos. 71 and 1966 (UC); Indian Head Canyon, No. 1273; near Beaver Creek bridge on the Simnasho-Hehe Butte road, Nos. 1279, 1423, 1917, 1954 (UC); and near Nena Creek, No. 1553—all in southern Wasco County. Other relevant specimens: *Thompson 4951* (WTU), Tygh Hill, Wasco County; and *Peck 18646*, near summit, Ochoco Forest, Crook County.

LOMATIUM COUS (S. Wats.) Coult. & Rose. Apparently not previously collected as far west as Warm Springs, where it is locally abundant. *Peck 26166* (WILLU), from eight miles south of Maupin, Wasco County, is near the reservation. Our Wasco County specimens: Nos. 473, 528, south side of Warm Springs River valley, near Agency-Simnasho road; Nos. 1219, 1869 (UC), Sidwalter Flat, near Highway 26. Jefferson County: No. 649, Miller Flat, north of Highway 26. Like other Indians of the Columbia Plateau, the Warm Springs Indians dig the starchy tubers for food.

LOMATIUM LEPTOCARPUM (Torr. & Gray) Coult. & Rose. Published records locate the western limit of this umbellifer in the Blue Mountains. However, *Cronquist 7425* (UC) came from Big Summit Prairie, Wheeler

County, and Peck has collected the species in various parts of Wasco County. Our Nos. 526 and 1896 (UC) came from west of Simnasho, and Nos. 584A, 584B, 584C, and 1755 were collected about a mile northwest of Hehe Butte, all in Wasco County.

LOMATIUM NEVADENSE (S. Wats.) Coult. & Rose var. NEVADENSE. Warm Springs represents the northwestern limit for this Great Basin species, which was collected southeast of the Agency area longhouse, Jefferson County, Nos. 516A, 516B, 516C, and 1900 (UC).

PTERYXIA TEREBINTHINA (Hook.) Coult. & Rose var. TEREBINTHINA. Widely distributed in eastern Oregon, but not previously collected within many miles of Warm Springs. Both Nos. 1274 and 1897 (UC) came from Indian Head Canyon, near the Agency-Simnasho road, Wasco County; No. 1582 was collected from a rocky point north of the junction of the Whitewater and Metolius rivers, Jefferson County.

CAMPANULA SCOULERI Hook. Although frequent in the woods of western Oregon, this species is rarely reported east of the Cascades. There are a few northern Oregon collections from the region east of Santiam Pass and from the eastern slopes of Mount Hood. Our specimens were found near Highway 26 at the northern reservation boundary, Wasco County, No. 1342. Thus this species might be considered a regular inhabitant of the eastern slopes of the Cascades, at least in the northern portion of the state.

SENECIO MACOUNII Greene (= *S. fastigiatus* Nutt.) While this typically western Oregon species is very closely related to the eastern Oregon *Senecio canus* Hook., most specimens are clearly referable to one or the other species, and intermediates are lacking. A number of specimens from eastern Oregon have been referred by various collectors to *S. macounii*, although they more properly belong in *S. canus*. We have, however, found "good" *S. macounii* in the open pine woods at the Hehe celebration ground, Wasco County, Nos. 1463 and 1464 (both NY).

STYLOCLINE FILAGINEA Gray. Generally attributed to extreme eastern and southeastern Oregon, this species has recently been collected in Jefferson County 20 miles northeast of Madras, Peck 26156 (WILLU) and from a single colony in the Agency area at Warm Springs, our No. 1690 (NY).

TETRADYMIA GLABRATA Gray. Another species reaching its northwestern range limit on the reservation. In Oregon, it is most frequently collected in the southeastern counties, but recently it has been found near Mitchell, Wheeler County, Cronquist 7259 (OSC). Our plant, No. 1250 (NY), was growing southeast of Hehe Butte, Wasco County, about 75 miles northwest of Mitchell.

INTRODUCED SPECIES

RUBUS LACINIATUS Willd. Sparingly established in Shitike Creek valley west of the Agency, Jefferson County (No. 980). Only one other Oregon

specimen seen from east of the Cascade Mountains, *Small 30* (ORE), from Link River, Klamath County.

ANTHRISCUS SCANDICINA (Weber) Mansfield. This European species is well established in western Oregon, but only a single collection from east of the mountains was located in the herbaria: *Hitchcock 20441* (WTU), near the mouth of the John Day River, Sherman County. Our Nos. 827 and 942 came from a settled area west of the Agency.

MYOSOTIS MICRANTHA Pall. ex Lehm. In our earlier paper (Ornduff and French, 1958, p. 220) we mistakenly referred our No. 898 to *M. discolor* Pers. This has proved to be another Old World species, *M. micrantha*, as has our (previously uncited) No. 1808 from Sidwalter Flat, Wasco County.

DISCUSSION

In general, the new stations reported for the various species in the above list and in our previous paper are rather well-distributed over the reservation. There are few areas in which the "extra-limital" species are aggregated, as might be expected in view of both the geological and vegetational continuity of the reservation with much of the rest of central Oregon. An exception to this rule, however, is a large aggregation on or near the reservation of species characteristic of the more mesic western portions of the state, which are seldom collected east of the Cascade range. As might be expected, these species are typically inhabitants of moist ground along streams or rivers, or less frequently they are woodland plants. These species are: *Holcus lanatus* L., an introduction found in Wasco County by us and in Deschutes County by others; *Carex aperta* Boott., found by us in Wasco County, and known also from Union County; *Eleocharis obtusa* (Willd.) Schultes, known from Hood River, Umatilla, and Union counties, and here reported from Jefferson County; *Cardamine oligosperma* Nutt., found outside the reservation in Wasco County and Sherman County, as well as by us inside the reservation in Wasco County; *Perideridia oregana* (S. Wats.) Mathias, found by us in two localities on the reservation in Wasco County, and known also from various Klamath County collections; *Trichostema oblongum* Benth., infrequent in the counties south of the reservation and collected by us on the reservation in Wasco County; *Artemisia douglasiana* Bess., growing along the Deschutes River in Jefferson County; and *Gnaphalium chilense* Spreng., sporadic in Deschutes and Umatilla counties and found by us in Jefferson County as well.

In addition to these characteristically western species which are seldom collected east of the Cascades, we have noted additional species which have apparently never been reported from east of these mountains. These are: *Juncus effusus* L. var. *pacificus* Fern. & Weig., locally abundant along Shitike Creek, west of the Agency, Jefferson County, Nos. 215, 940, and 1509 (NY) as well as along Beaver Creek near the north reservation boundary, Wasco County, No. 1644; *Achlys triphylla* (Smith)

DC., found well down on the eastern slopes of the Cascades at the north reservation boundary near Highway 26, No. 363, and near the upper Warm Springs River, No. 866, both Wasco County; *Ribes sanguineum* Pursh, various collections noted from Jefferson County sites, and also found in a number of localities along upper Beaver Creek where it parallels Highway 26, e.g., our Nos. 355, 627A, 627B; *Angelica genuflexa* Nutt., found in scattered moist areas southeast of Mount Hood in Wasco County, as near Highway 26 one mile north of the north reservation boundary, No. 1846 (UC), and also collected by other workers east of the Cascade summit in Klamath County; *Gentiana sceptrum* Griseb., collected in a damp meadow near Highway 26 several miles southeast of its junction with Highway 52, Wasco County, No. 1389; and *Veronica serpyllifolia* L. var. *serpyllifolia* from along Beaver Creek about 0.5 miles northwest of the Highway 26 intersection with the north reservation boundary, Wasco County, No. 1803.

Most of the species discussed in the present and previous papers fall into two phytogeographical groups: (1) those which occur at Warm Springs in populations disjunct from the reported range of the species, and (2) those which appear to be beyond the margins of their previously reported ranges. In the first group are species such as *Convolvulus polymorphus*, *Phacelia thermalis*, and *Stylocline filaginea*. Intensive collecting in the areas adjacent to the reservation will likely show that many of these apparently disjunct stations are in fact connected with the main range of the species by geographically intermediate populations. In the second group are species such as *Pinus lambertiana*, *Allium macrum*, *Achlys triphylla*, *Angelica genuflexa*, and *Tetradymia glabrata*, many of which appear to be at their northern, southern, eastern, or western limits. The majority of the species in this latter group are those typical of the more mesic western portions of the state which have evidently migrated into suitable sites in our region either through the Columbia gorge and thence southward along the eastern slopes of the Cascades, or via the low mountain passes in the Cascades. Undoubtedly most of the weedy species reported are relatively recent introductions which may or may not become permanent members of the naturalized flora of the reservation. It is likely that a few native species, such as *Phacelia thermalis*, have been recently introduced and will not become established. However, the majority of the species we have discussed are well-established and occur in large colonies and/or in a number of widely separated vigorous populations. A notable exception is *Pinus lambertiana*, represented on the reservation by a few isolated senescent individuals which are not reproducing.

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G. THOMAS ROBBINS (1916-1960)



Early on the morning of February 11th, 1960, a few days after his forty-fourth birthday, G. Thomas Robbins, Herbarium Botanist in the Jepson Herbarium of the University of California Botany Department, died quietly in his sleep. The resultant sense of shock and loss among his botanical colleagues, especially those in Berkeley, was both deep and lasting.

Tom Robbins was born in San Francisco on February 6, 1916. While