

SOME INTERESTING PLANTS OF
MALHEUR COUNTY, OREGON

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The observations upon which the following notes are based were made chiefly on four collecting trips into Malheur County, namely, July 8-12, 1938, May 4-9, 1940, June 10-20, 1942, and June 1-11, 1943. A few are from earlier notes.

The flora of Malheur County is probably less known than that of any other section of Oregon. The southern half and much of the northern are mainly desert with only a few widely scattered ranches. Most of the population is in the northeastern part where there is extensive irrigation. The proximity to parts of Idaho and Nevada that have not been very thoroughly explored botanically should lend additional interest to the observations. Many of the species here included do not occur very far on our side of the border, and many others are sure to be added in the future. A thorough exploration of the remarkable canyon of the Owyhee River cannot fail to yield most interesting results.

A detailed account of the physical features of Malheur County would greatly enhance the value of these observations, but would call for more space than can here be allowed. It is hoped that the notes may at least stimulate further investigation of this neglected region.

ALLIUM ANCEPS Kell. In clayey soil 15 miles north of McDermitt and in a similar situation 15 miles south of Sheaville. Not otherwise known to us from Oregon except for specimens taken by Mrs. Lilla Leach on Hart Mt., Lake County, June 11, 1937.

Allium nevadense Wats. var. *macropetalum* Peck, var. nov., scapo robustiore plerumque brevior; folio scapo longiore; perianthio longiore 9-11 mm. longo; staminibus perianthium subæquantibus; cristis ovarii 1 mm. altis late rotundatis vel truncatis sæpe denticulatis.

Scape stouter than in the species and mostly shorter; leaf surpassing the scape; perianth-parts longer, 9-11 mm. long.; stamens nearly equaling the perianth; crests of the ovary 1 mm. high, broadly rounded or truncate, often denticulate.

Type: *Peck No. 21704*, in low sagebrush 17 miles north of McDermitt, Malheur County, Oregon, June 3, 1943. Differs

from the species especially in the relatively longer leaf and larger flowers. The variety occurs infrequently from Jordan Creek southward at least to the Nevada line.

SALIX SESSILIFOLIA Nutt. Specimens were collected in Owyhee Canyon a short distance above Rome. The species has an erratic distribution. Its regular range seems to be from the Umpqua Valley northward to Vancouver Island, but we have it from southern Lake County, and now from this isolated station.

Eriogonum novonudum Peck, spec. nov., suffrutescens; ramis ligneis circa 1 dm. longis decumbentibus copiose ramosis; foliis spathulatis vel anguste obovatis utrinque dense albo-tomentosis 2—3 cm. longis in petiolis multo longioribus, pedunculis 2.5—3.5 dm. altis glaberrimis glaucissimis; radiis umbellæ plerumque tribus 8—15 cm. longis prope erectis; involucri capitatis capitibus compositis capitulis 2—5, involucri anguste turbinatis 3—5 mm. altis lobis 6—8 latis rotundatis scariosis; floribus viridescenti-albis 3—3.5 mm. longis glabris segmentis omnibus similibus.

Plant suffrutescens, the main branches of the shrubby base about 1 dm. long, decumbent and copiously branched; leaves crowded at the base of the scape-like flowering stems and on very short sterile shoots, spatulate or narrowly obovate, densely white-tomentose on both faces, 2—3 cm. long, on petioles often more than twice as long; peduncles 2.5—3.5 dm. high, slender, glabrous and very glaucous, each bearing a 3-rayed umbel subtended by 3—5 small, scariosus, connate bracts, the rays 8—15 cm. long and closely ascending, the involucre sessile or nearly so in 2—5 small, nearly sessile heads, forming the capitate cluster of the ray; involucre narrowly turbinate, 3—5 mm. high, with 6—8 broad, rounded, largely scariosus, erect teeth, glabrous and distinctly ribbed; flowers dull greenish-white; perianth 3—3.5 mm. high, glabrous, the outer and inner segments essentially alike; stamens long-exserted; ovary and fruit glabrous.

Type: *Peck No. 21216*, on a sandy clayey slope 10 miles south of Adrian, Malheur County, Oregon, June 13, 1942.

This species is perhaps related to *E. nudum* Dougl., but differs in many respects, most conspicuously in the much more woody stem and the uniformly 3-rayed umbel with very long, closely ascending rays capped with the small, dense, compound heads. Several collections were made, all in the same general locality.

Eriogonum ochrocephalum Wats. var. *calcareum* (Stokes) Peck, comb. nov. *E. ochrocephalum* subsp. *calcareum* Stokes, Gen. Eriog. p. 92. A well-marked local variety. Our material was taken probably very close to the type-locality. The name, perhaps suggested by the original collector's field notes, is an unfortunate choice. The plant grows a few miles north of Harper on a series of rather high, steep hills of a pale gray, very soft,

somewhat chalk-like material, not in the least calcareous. A sample submitted to Professor Herman Clark, Department of Geology, Willamette University, was identified as tufaceous and diatomaceous, apparently from a deposit in an ancient lake bed.

MIRABILIS BIGELOVII Gray var. *RETRORSA* (Hel.) Munz. Plentiful locally on the nearly vertical walls of Owyhee Canyon, 10 to 15 miles below the great dam. We have no other Oregon record of this plant.

ARENARIA BURKEI Howell. Found sparingly on the white tufaceous hills 5 miles north of Harper. Rare in Oregon.

CERATOCEPHALUS FALCATUS (L.) Moench. It is worth noting that this Old-World species has become well established about McDermitt. It is plentiful in places and is steadily increasing from Wheeler County northward and along the Columbia River.

BECKWITHIA ANDERSONII (Gray) Jeps. A large colony was discovered on a high clayey slope 15 miles north of McDermitt.

DRABA DOUGLASII Gray. Plentiful locally on sterile stony ridges 15 to 20 miles north of Jordan Valley. It also occurs on the eastern slope of the Steens Mts. and on Stinking Water Mt. in eastern Harney County.

PHYSARIA CHAMBERSII Rollins. A good-sized colony was found on a sandy knoll just within the Idaho-Oregon line 20 miles north of Jordan Valley.

LEPIDIUM MONTANUM Nutt. var. *CANESCENS* (Thell.) C. L. Hitchc. One of the characteristic species of the low alkaline flats along McDermitt Creek just west of McDermitt. It was collected also along Crooked Creek 25 miles southwest of Rome. We have it from Narrows, Harney County, and from the southeastern part of the same county.

DESCURAINIA PINNATA (Walt.) Britt. vars. *FILIPES* (Gray) Peck, *HALICTORUM* (Cocker.) Peck, *PARADISA* (Nels. & Ken.) Peck, and *NELSONII* (Rydb.) Peck. From Vale and Ontario southward abundant intergradations between these four entities occur. They are distinct and not difficult of recognition when typically developed, but their boundaries are here quite lost. This fact was noted by Detling in his excellent treatment of the genus.

STREPTANTHUS PILOSUS Wats. From Harper and Adrian southward this species occurs rather infrequently, usually in

dwarf sagebrush, where it is often conspicuous by its tall, much-branched habit.

STANLEYA PINNATA (Pursh) Britt. One large colony was found on stony, clayey ground 5 miles south of Rome. It has been collected also in southeastern Harney County, but is rare in Oregon.

CLEOMELLA HILLMANI Nels. From Adrian southward to Rome, but especially in the Sucker Creek country, during May, many of the pale ochraceous-gray slopes of the high broken hills and ridges are mantled in bright yellow, often distinguishable at a distance of two or three miles. These fine displays of color are due mostly to a dense growth of *Cleome platycarpa* and *Cleomella Hillmani*, the former usually, but not always the more abundant. These peculiar deposits of Eocene clay, very viscid and slippery when wet, have usually a rather sparse covering of vegetation, but offer excellent collecting ground, as they are frequently the favorite habitat of rare and local plants.

CLEOMELLA PLOCASPERMA Wats. Moderately plentiful on the low alkaline flats west of McDermitt. It occurs in similar situations along the eastern base of the Steens Mts. and southward in Harney County.

RIBES GOODINGII Peck. Found sparingly on the nearly vertical walls of Sucker Creek Canyon. This is the southernmost point known for the species.

POTENTILLA PARADOXA Nutt. On wet shores of Snake River in the extreme northeast corner of the county.

LUPINUS UNCIALIS Wats. A good-sized colony of this rare and most diminutive of lupines was found on a high gravelly slope 15 miles north of McDermitt. Evidently this is the first record of the species for Oregon.

Astragalus Jessiæ Peck, spec. nov., perennis humilis a basi ramosissima; caudice brevi ligneo; caulibus crassis rigidis 6—12 cm. longis adscendentibus et patentibus dense albo-strigosis; foliis 1—2 cm. longis dense utrinque strigosis, stipulis scariosis modo ad basin conjunctis ad apices longas acutas induratas abrupte contractis valde patentibus, foliolis 5—7 coactis 8—13 mm. longis anguste lanceolatis involutis rigidis in apices longas acutas induratas flavas excurrentibus; pedunculis brevissimis, floribus plerumque 3, pedicellis 1 mm. longis; calyce 4 mm. longo dentibus subulatis tubum paulo superantibus; corolla 5 mm. longa albida, carina apicem versus purpurea; legumine (immaturo) lanceolato-oblongo compresso dense strigoso, seminibus 2.

Stems several or many from a short woody caudex, stout, rigid, ascending and spreading, 6—12 cm. high, densely white-strigose; leaves 1—2 cm. long, pubescent like the stem, the scarious stipules slightly connate at base, abruptly contracted to strongly spreading, slender and pungent tips often 2—3 times as long as the body, the leaflets 5 or occasionally 7, crowded, 8—13 mm. long, surpassing the petiole, narrowly lanceolate, strongly involute, very stiff, drawn out to long, rigid, very pungent, yellow tips; peduncles mostly 3-flowered, very short, the pedicels about 1 mm. long; calyx 4 mm. long, the subulate lobes a little longer than the tube; corolla 5 mm. long, whitish, the keel purple-tipped; pod (immature) lance-oblong, compressed, densely strigose, 2-seeded.

Type: *Peck No. 21220*, from a high gravelly slope 10 miles south of Adrian, Malheur County, Oregon, June 13, 1942. This new member of the subgenus *Kentrophyta* differs from any other known to us in the stout, rigid, brittle stems, the bushy habit, and coarse, very pungent foliage. It inhabits an imperfectly known territory from which additional collections may be expected. It is named for Mrs. Jessie G. Peck, who discovered the colony from which the type was taken.

Astragalus solitarius Peck, spec. nov., *perennis gracilis* 3—5 dm. altus, *caulibus solitariis vel paucis debilibus plantis vicinis sustentis sparse ramosis flexuosis pilis minutis incurvatis canescentibus; foliis cum petiolis* 5—10 cm. longis, *foliolis* 7—13 utrimque canescentibus anguste linearibus obtusis remotis 1—2 cm. longis; *pedunculis aliquantum robustis foliis multo longioribus; racemis laxe* 10—15-floris; *calyce nigro-crinito cylindrico-campanulato* 3—4 mm. longo *dentibus triangularibus brevissimis; corolla* 7—8 mm. longa *luteo-viridi purpureo-tincta; legumine angusto-oblongo valde compresso suturis utrisque exsertis dense puberulo prope recto vel valde arcuato deorsum curvato cum stipo* 2—2.5 cm. longo, *stipo* 6—8 mm. longo.

Stems arising singly or in small clusters from a deep taproot, 3—5 cm. high, slender and weak, mostly supported by other vegetation, sparingly branched, flexuous, canescent with minute incurved hairs; leaves, including the petiole, 5—10 cm. long, the leaflets 7—13, canescent like the stem on both surfaces, narrowly linear, obtuse, remote, 1—2 cm. long; peduncles relatively stout, up to 2 dm. long including the raceme; racemes loosely 10—15-flowered; calyx black-hairy, cylindrical-campanulate, 3—4 mm. long, the triangular lobes less than a third as long as the tube; corolla 7—8 mm. long, yellowish-green tinged with purple; pod narrowly oblong, strongly compressed, including the stipe 2—2.5 cm. long, the latter 3 times as long as the calyx, acute at both ends, densely puberulent with incurved hairs, nearly straight to decidedly arcuate and turned downward on the horizontally spreading pedicel.

Type: *Peck No. 21726*, among sagebrush, 15 miles north of McDermitt, Malheur County, Oregon, June 4, 1943. Plants widely scattered, very inconspicuous, growing close to the base

of the sagebrush clumps and supported by the branches. It belongs to the subgenus *Homalobus*, perhaps most nearly related to *A. stenophyllus* T. & G. from which it differs, however, in numerous characters.

ASTRAGALUS ALVORDENSIS Jones. On high sandy slopes near Rome and at Sheaville. Very local.

ASTRAGALUS NUDISILIQUEUS Nels. Collected near Nyssa and also at Harper. The caudex, stems, and peduncles are sometimes elongated, the stems up to 2 dm., the peduncles up to 1 dm.; the flowers are often strongly purple-tinged and the pods up to 3 cm. long. The species, however, seems sufficiently well marked.

ASTRAGALUS TETRAPTERUS Wats. On a high dry slope near Rome and at Blue Mountain Pass, 25 miles north of McDermitt. Though far out of the usual range of the species, our specimens appear quite typical.

ASTRAGALUS CINERASCENS (Rydb.) Tidest. On sandy hills near Jordan Valley; otherwise apparently known only from the type-locality, near Harney Lake, Harney County.

ASTRAGALUS GEYERI Gray. On stony clayey slopes near Rome. Not noted elsewhere.

ASTRAGALUS WEISERENSIS (Jones) Abrams. Rather plentiful over about the northeastern fourth of the county.

ASTRAGALUS MALHEURENSIS Hel. Apparently rare. Two collections were secured, one near Vale and one in the extreme northeastern corner of the county.

ASTRAGALUS MULFORDÆ Jones. A single specimen was collected on a shady slope in Owyhee Canyon 10 miles below the Owyhee dam.

TRIBULUS TERRESTRIS L. This evil weed was first recorded from Oregon at Robinette, Baker County, in 1938. It has since appeared at Umatilla, Umatilla County, and at Ontario, Malheur County. It seems in a fair way to spread over much of eastern Oregon.

SPHÆRALCEA COCCINEA (Nutt.) Rydb. This occurs frequently from Jordan Valley southward. In the extreme southern part of the county, near McDermitt, numerous examples of what are apparently hybrids between this species and *S. Munroana* were found. Both were locally plentiful.

Mentzelia mollis Peck, spec. nov., annua humilis erecta 5—10 cm. alta; caule crasso ramoso pilis minutis vix scabris dense puberulo; foliis ad basin confertis oblongo-lanceolatis vel oblanceolatis obtusis plerumque integris vel obscure undulatis 3—5 cm. longis caule minus dense puberulis; floribus subsessilibus ad terminos ramorum foliis reductis subtentis; segmentis calycis lanceolatis acutis 4—6 mm. longis; petalis anguste obovatis flavis 10—12 mm. longis; staminibus 40—50, filamentis filiformi-subulatis; stylo staminibus multo longiore, stigmate capitato; capsula (immatura) quadrilatera striata circa 2.5 cm. longa.

A low annual 5—10 cm. high; stem erect, stout, freely branched, dark colored, densely puberulent with fine glochidiate but only slightly scabrous hairs; leaves crowded below, oblong-lanceolate to oblanceolate, obtuse, nearly entire or obscurely undulate, rarely with 1 or 2 low teeth, sessile or on broad short petioles, 3—5 cm. long, less densely puberulent than the stem; flowers nearly sessile, mostly in small clusters at the ends of the branches, subtended but not at all concealed by reduced leaves; calyx-segments lanceolate or lance-ovate, acutish, 4—6 mm. long; petals narrowly obovate, clear yellow, 10—12 mm. long; stamens 40—50, a little shorter than the petals, the filaments filiform-subulate; style much surpassing the stamens, the stigma capitate; capsule (immature) 4-sided, longitudinally striate, about 2.5 cm. long.

Type: *Peck No. 20631*, on a clayey slope 1 mile north of Rockville, Malheur County, Oregon, May 7, 1940. An interesting addition to the section *Trachyphytum*, clearly distinguished by its low stout stem, nearly entire leaves, fine, hardly scabrous pubescence, and relatively large flowers. It is probably very local.

ELÆAGNUS UTILIS Nels. Not uncommon on low alkaline flats west of McDermitt. In Harney County it is found sparingly near Alvord Lake, along the east base of the Steens Mts., and southward to Nevada.

ÆNOTHERA PALMERI Wats. Rather plentiful in sandy soil a few miles west of Vale; apparently rare elsewhere.

ÆNOTHERA MULTIJUGA Wats. An abundant and very showy evening primrose, especially in the southern half of the county. It occurs as far north as Harper, and also near Fields, Harney County.

ÆNOTHERA ALYSSOIDES H. & A. var. **VILLOSA** Wats. A densely villous form of this variety was found in some abundance about 12 miles southwest of Vale. Its blooming period is considerably later than that of the species, from which it differs strikingly in appearance.

PTERYXIA PETRÆA (Jones) C. & R. Found in considerable abundance on the dry, nearly vertical walls of Owyhee Canyon 6 miles above Rome.

CYMOPTERUS ACAULIS (Pursh) Raf. Frequent on clay slopes of the lower Owyhee and Sucker Creek section.

CYMOPTERUS WATSONI (C. & R.) Jones. Collected in two localities, at Blue Mountain Pass and on a stony slope 15 miles north of McDermitt. The species has been known hitherto only from Nevada and Utah.

ASCLEPIAS CRYPTOCERAS Wats. Occurs sparingly on high dry hills from northern Malheur County southward. There is a record from Robinette, Baker County.

PHLOX AUSTROMONTANA Cov. Specimens were taken on high stony slopes a few miles north of McDermitt. The species is apparently rare and local in Oregon.

GYMNOSTERIS NUDICAULIS (T. & G.) Greene. Found in the valley of Malheur River near Harper, northward to Westfall and eastward to Vale. A few miles west of Vale it is very abundant and presents remarkable color variations, from nearly white to deep lavender and bright yellow. The smaller species, *G. parvula* (Rydb.) Hel., has a much wider range in Oregon, occurring as far west as northwestern Harney County.

LANGLOISIA SETOSISSIMA (Gray) Greene. Small colonies were found in various places on dry stony slopes in the lower Owyhee Canyon and the Sucker Creek section.

COLLOMIA MACROCALYX Eastw. Collected on a high clayey slope about 15 miles north of McDermitt. So far as we are aware this is the first record of this very distinct species since the discovery of the type.

PHACELIA RATTANI Gray. This plant has a remarkably erratic distribution in Oregon. We have it from the southwestern part of the state (Josephine County), from the canyon of the Deschutes River, Wasco County, and from Owyhee Canyon a few miles above Rome, but from no intermediate stations. It also occurs in Idaho and California.

*Salvia carnos*a Dougl. var. *gracilior* Peck, var. nov., erecta ramosissima 3 dm. alta ramulis ultimis tenuissimis; foliis permultis 7—15 mm. longis; bracteis 3—5 mm. longis apicem versus plumbeis vix ciliolatis.

Erect, copiously branched, about 3 dm. high, the ultimate branches almost filiform; leaves very numerous, including the petiole under 15 mm. long; floral bracts 5 mm. long or less, plumbeous toward the tip, scarcely ciliate.

Type: *Peck No. 21810*, on a dry rocky bank of Owyhee Canyon 6 miles above Rome, Malheur County, Oregon, July 9, 1943. Strikingly different from the ordinary form of the species, which occurs in the same neighborhood. The very slender branches, small leaves, and very small bracts are distinctive.

VERONICA ANAGALLIS L. Established along irrigation ditches about Ontario.

APLOPAPPUS INTEGRIFOLIUS Porter. A considerable colony of this large and conspicuous *Aplopappus* was found on a slightly moist slope 2 miles west of Brogan. A characteristic species of the Rocky Mountains, this is far out of its normal range.

TOWNSENDIA WATSONI Gray. This is the common *Townsendia* throughout Malheur County. The characters on which it is separated from *T. florifer* are mainly the more strongly spatulate cauline leaves, the shorter rays, and the very short outer pappus. The best of these, so far as our material shows, is the character of the pappus, though *T. florifer* often has the outer pappus not more than half as long as the inner. Specimens with typical *T. Watsoni* pappus sometimes have very long rays and the cauline leaves may approach those of otherwise typical *T. florifer*.

Stylocline psilocarphoides Peck, spec. nov., planta omnino laxe tomentosa erecta vel depressa parce vel copiose ramosa 3—5 cm. alta; foliis 4—8 mm. longis linearibus vel oblongis maxima ex parte sub capitulis congestis; capitulis sessilibus in capitibus globosis; floribus fertilibus 8—12; paleis amplectentibus exterius albo-tomentosis 3 mm. longis apicibus hyalinis brevibus acutis marginibus involutis supra medium late hyalinis; floribus staminiferis 2 vel 3 paleis hyalinis; pappo nullo.

A small annual herb, erect and proliferously branched with few filiform, naked branches, sometimes more or less depressed and more copiously branched, gray-tomentose throughout, 3—5 cm. high; leaves alternate or a few of the lower opposite, 4—8 mm. long, the lower cauline few, linear, the upper closely rosulate about the clusters of heads, mainly linear-oblong, acute or slightly acuminate, not mucronate; heads in small, dense, globose clusters; pistillate flowers 8—12 to a head, the enfolding scales white-woolly dorsally, about 3 mm. long, the acutish, scarios tips one-fourth as long as the body but continued as a hyaline wing down the margins to the middle; staminate flowers 2 or 3, often with as many minute neutral flowers, each subtended by an ovate or lanceolate scale equaling or shorter than the flower; pappus wholly wanting.

Type: *Peck No. 21730*, on a dry slope about 15 miles north of McDermitt, Malheur County, Oregon, June 4, 1943. This obscure little plant seems most closely related to *S. micropoides*,