

A. MODOCENSE. Allied to the last, the somewhat larger leaves apparently as constantly 5-lobed and with lobes radiant rather than pointing forward, the surface not wholly glabrous, some soft hairs appearing along the veins in some: flowers rather small, sepals, petals and even the anthers green, or greenish-white; sepals mostly (all the outer ones) merely oval, little exceeding the whitish petals, both sepals and petals sparingly hairy; fruit unknown.

Represented by only some flowering branches, with young foliage, collected near the Warm Springs, Modoc Co., California, 4 June, 1892, by M. S. Baker and Frank Nutting. While the leaves here are almost those of *A. Macounii* the flowers are very notably different; for in both that and *A. circinatum* the sepals are narrow, elongated to twice or thrice the length of the petals, and are of a dark red-purple. In *A. Modocense* they are not only green, but very short for those of any maple at all.

A NEW STUDY OF MICROSERIS.

Although the type of this genus is Chilean, the species are most numerous in California. My first critical study of them was made in San Francisco twenty years ago. I proposed then the two new species, *M. attenuata*, and *acuminata*, both of which have since obtained universal recognition.

The researches of three more seasons carried on in that field led to the expression of views that were published in 1886,¹ according to which, out of the heterogenous "*Microseris*" of Gray's *Synoptical Flora*, *Calais* of De Candolle, and *Scorzonella* of Nuttall were restored, and two new genera, *Ptilocalais* and *Nothocalais* were proposed; while for the genuine *Microseris*, the new discovery was made that its species fell into two natural groups, according as the paleæ of the pappus are triangular and plane, or rounded and cymbiform. In this paper I added but

¹ Bull. Calif. Acad. ii, 41-55.

flowering scapes and almost equalling the fruiting ones, these 6 to 10 inches high: heads round-ovoid, less than $\frac{1}{2}$ inch high: achenes $1\frac{1}{4}$ lines long, short-columnar inclining to turbinate, the outer villous somewhat in lines, the others smooth, even the ribs not perceptibly scabrous under an ordinary strong lens; paleæ of the pappus 1 line long, slenderly subulate-lanceolate, remotely serrate-toothed, very thin, the delicate awn nearly 2 lines long, merely scaberulous, the whole pappus chestnut-brown.

Near Byron Springs, Calif., 24 March, 1889, collected by myself; also near Chico, C. C. Parry, 1881.

M. CAMPESTRIS. Near the preceding, like it in size, habit heads, etc., but leaves less narrowly pinnatisect: achenes also in size and form much the same, rather larger, but more villous, the outer with thickened ribs obscurely roughened, those of the inner minutely but very saliently spinulose-serrulate; the pappus distinctive, consisting of nearly white ovate-lanceolate entire glabrous paleæ of a line long, and a tawny barbellulate awn somewhat longer.

The type is from Byron Springs, Calif., 24 March, 1889, collected by the writer. Sufficiently at agreement with it is a sheet of specimens from the same tract of interior plains further south, collected 28 March, 1886, by Dr. T. J. Patterson. I hesitate to refer to it a plant from Stony Creek in the Santa Lucia Mountains, May, 1897, collected by Miss Eastwood; for its pappus-paleæ are shorter, and are serrate-toothed, as in *M. Bigelovii* (i. e. my former *M. intermedia*).

M. COGNATA. Allied to *M. acuminata*, but smaller in all its parts, the decumbent-scapes slender, 3 to 6 inches high: involucre narrowly turbinate: achenes only 2 lines long, linear-fusiform, chestnut-brown, the ribs only delicately scabrous-serrulate; pappus 6 lines long, the paleæ linear-lanceolate, loosely appressed-villous both externally and within, tapering to a barbellulate awn of only about 2 lines' length.

Known only as collected by myself on the plains of the inte

rior of California near Fresno, April, 1884, and at the time referred to my then recently published *M. acuminata*; from which it must needs be held distinct on account of its smoother achenes and villous pappus-pales, this last being a new character for a species of this group.

M. OBTUSATA. Stoutish, low, perhaps sometimes depressed the scapes 3 to 7 inches high, the flowering ones almost equalled by the leaves, these somewhat lyrate-pinnatifid, the large terminal segment oval, the others more nearly oblong, all very obtuse, mucronulate: involucre more than $\frac{1}{2}$ inch high, subglobose, the calyculate outer series of bracts uncommonly large for the genus, and imbricate in two or three series: achenes subclavate-cylindric, 2 lines long, the outer strongly villous in lines, the inner with ribs scabrous-serrulate, light brown, flecked with short linear dots of purple; pappus of subquadrate-lanceolate lacerate-toothed translucent but dark smoky-brown paleæ and almost twice longer awns.

Bodega Point, Sonoma Co., Calif., 1899 and 1900, Miss Eastwood. Perhaps also the same, by the same, from Point San Pedro, San Mateo Co., 1899; but this last has darker spotless achenes and a rather different almost entire pappus-pale.

M. MARITIMA. Near the last, larger, but much more slender, commonly much depressed: leaves mostly of oblanceolate outline, the lowest often quite entire, some merely dentate, the greater number pinnatifid, but leaving a large oblong or oval obtuse entire terminal lobe: heads round-ovoid, less than $\frac{1}{2}$ inch high: achenes narrow-turbinate, only $1\frac{1}{2}$ lines long, the outer silky-villous, the others partly with obtuse smooth ribs and partly with ribs more acute and finely scabrous-serrulate; pappus-paleæ ovate-trigonous thin, white, subentire, scarcely a line long terminating in an awn of almost 3 lines.

On open bluffs overhanging the sea at Pacific Grove, Monterey Co., Calif., 27 May, 1895, collected by the writer.