

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.

M. PULCHELLA. Numerous scapes strongly decumbent, 3 to 7 inches high, the leaves half as high, loosely pinnatisect, the segments narrowly linear, entire, the terminal one thrice the size of the others: involucre almost hemispherical: achenes oblong, 2 lines long, the outer minutely and densely white-silky; the others chestnut-color, their thickish ribs either very delicately or almost obsoletely scabrous; pappus-paleæ very short, deltoid, densely white-villous, the whitish awn several times longer and of about the length of the achene, obscurely barbel-lulate.

This, the most elegant of species as to the beauty of its achene and pappus, was collected by myself somewhat copiously, at a certain point among the hills east of the Livermore Valley, Alameda Co., Calif., 2 May, 1895, and is not otherwise known. It is allied to *M. aphantocarpha*, but is a smaller plant, well distinguished by the dense silkiness of its minute pappus-pales.

M. ATRATA. Also related to *M. aphantocarpha*, about a foot high, the irregularly and falcately cut leaves 8 or 10 inches long; involucre large and many-flowered, hemispherical: achenes oblong-linear, $2\frac{1}{2}$ lines long, only one here and there among the outer series villous-pubescent, all the others very light-colored, their ribs minutely but very sharply serrulate-spinulose: pappus of very small ovate acute dark-colored glabrous or merely scabrulous paleæ, and long tawny awn, the whole quite notably longer than the achene.

This is also from the hills east of Livermore, near Midway, collected by myself, 3 May, 1895. The palea is here much more elongated than in *M. aphantocarpha*, and is rather far from being plane, though not involute as in the other group. True *M. aphantocarpha* occurs in this same region, and of luxuriant growth.

M. STENOCARPHA. Foliage slenderly and almost pectinately pinnatifid, the segments very narrowly linear, mostly straight and nearly divaricate, the leaf as a whole quite surpassing the

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