

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.

Alameda Co., 3 May, 1895, has paleæ more villous, and also villous outer achenes.

M. BREVISETA. Small and slender, the foliage in reduced plants lance-linear and merely toothed, in other pinnatifid; scapes few, 3 to 6 inches high; involucre somewhat turbinate, achenes short and columnar, less than 2 lines long, the outer densely villous, the others dark chestnut-brown, their ribs rather coarsely and very roughly serrulate; paleæ of the pappus ovate-oblong, longer than the achene, distinctly cymbiform, dull-white, scaberulous, tapering to a very short barbellulate awn.

Collected by myself at San Diego, California, April, 1885, and made a part of my *M. Parishii*, Bull. Calif. Acad., ii, 46; but the type of that species has very different achenes and an almost black pappus. By the form of its involucre no less than by its very short pappus-awn does this species ally itself with *M. platycarpa* notwithstanding its narrow and elongated palea.

M. ALICIÆ. Scapes many, stoutish, decumbent, 4 to 10 inches high, the loosely pinnatifid leaves half as long; involucre round-ovoid: achenes short-columnar, $2\frac{1}{2}$ lines long, the very villous outer ones and some next them more less curved, the glabrous ones all of a light ash-gray hue, their obtuse ribs very slenderly and delicately spinulos-serrulate: paleæ of the pappus round-obovate, very obtuse, barely a line long, villous without and dull smoky-brown; awn slender, scarcely barbellulate, $1\frac{1}{2}$ lines long.

Santa Lucia Mountains, Monterey Co., California, May, 1897, Miss Alice Eastwood. Another ally of *M. platycarpa*.

M. PROXIMA. Near the last but much taller, the scapes few erect from the base and slender: involucre subcylindric: achenes nearly 3 lines long, slender-fusiform, all straight, the glabrous ones of a light chestnut-brown, with acute ribs that are scabrous-serrulate; round-obovate pappus-paleæ villous as in the last, the awn more barbellulate.

This also is known only from Miss Eastwood's specimens obtained at Warthau, Fresno Co., Calif., 11 May, 1893. I could

not unite this and the preceding as forms of one species on account of the marked differences in the achenes, though as to pappus they are quite alike. But the two are different habitally; and the geographical reason for holding them apart is cogent. The Santa Lucia Mountains, and the foothills of the Sierra Nevada opposite are two very distinct climatic regions. Mr. Parish's n. 1902, as in my herbarium, seems to represent *M. proxima* south of the Tehachapi Divide. It is from Elizabeth Lake, Los Angeles Co. Its pappus is rather more elongated than in the type specimens, but it does not otherwise differ.

M. FURFURACEA. Low, the many decumbent-scapes only 3 or 4 inches high and almost equalled by the loosely pinnatisect leaves, the whole plant, even to the involucre furfuraceous and also somewhat villous-hairy: involucre round-ovate achenes less than 2 lines long, nearly columnar, the outer somewhat shorter, white-villous in lines between the ribs, the others brownish, their ribs minutely and closely scabrous-serrulate; pappus of very short deltoid-ovate white glabrous paleæ broader than long, the slender fragile awn more than twice as long, the whole as long as the achene.

Only a single but excellent specimen, collected by the writer near Midway, Alameda Co., Calif., 3 May, 1895. The species may perhaps better stand in another group, near *M. aphantocarpa*; but the paleæ if not cymbiform are evidently concave.

M. OLIGANTHA. Plants small, the leaves mostly narrowly oblanceolate, obtuse and entire or sparingly toothed, some broader and more or less pinnatifid: scapes usually solitary, 3 to 6 inches high, decumbent: involucre cylindraceous, very few-flowered: achenes all very light-colored, the outer lightly villous, the inner with ribs very minutely and obscurely scabrous-serrulate, all about 2 lines long and linear-fusiform; pappus of short ovate glabrous white-paleæ and awn about twice as long.

Near Ashland, Oregon, April, 1889, Thomas Howell, distributed for *M. Douglasii*. I have little doubt that a similar plant