

*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.

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### 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,<sup>1</sup> 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

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<sup>1</sup> Bull. Calif. Acad. ii, 41-55.

from Vancouver Island, distributed by Mr. Macoun, may be the same, but I have seen no specimens in fruit.

The species next following may be regarded as segregates of *M. attenuata*, though the plants were not known at the time that species was published, and consequently have not affected the diagnosis of it; but several of them since have been referred to it by me as manuscript labels show. They are all at agreement with it as to the attenuation of the achene, which is only partly filled by the seed, the upper portion of the pericarp being vacant.

*M. CALLICARPHA.* Leaves pinnatifid but not very deeply so, the divisions from triangular to subulate-lanceolate or subfalcate: involucre oval: achenes scarcely 3 lines long, dark chestnut-brown, the ribs sharply serrulate-scabrous, a few of the outer villous; pappus about 4 lines long, the oval and distinctly cymbiform palea dull-brownish, white-flecked with the usual minute appressed scaberulous hair, but not in the least villous, the awn of less than twice the length of the palea.

Known to me only in a specimen preserved in my herbarium, taken out of the Botanic Garden at Berkeley in 1894, and named *M. attenuata*. I can not now recall from what part of California the seeds were derived.

*M. PICTA.* Leaves narrowly lanceolate, entire, or some with a few coarse teeth or short-lobes: involucre oblong,  $\frac{1}{2}$  inch long: achenes 3 lines long, slender-fusiform, rather abruptly narrowed under the pappus and much more than half filled by the seed, white, but with numerous large oblong-linear flecks of black, the ribs very sharply serrulate-scabrous, a few of the outer very villous; pappus  $4\frac{1}{2}$  lines long, the palea cymbiform sordid-brown, oblong-lanceolate, the awn one and a half times as long.

Salinas Valley, Monterey Co., Calif., May, 1889, E. K. Abbott; the type in my own herbarium.

*M. LEIOSPERMA.* Large; the many scapes stout, decumbent: leaves rather coarsely pinnate-parted: involucre very many-

flowered and subcampanulate: achenes scarcely 4 lines long, almost columnar, only slightly narrower from the middle upwards, but this portion vacant, the whole of a light brown approaching straw-color, the usual ribs obsolete and the whole surface smooth, the outer ones more shortly and densely villous than in other species: pappus fully 5 lines long, the dull dark-brown paleæ lanceolate (also cymbiform), strongly appressed-villous but only on and very near the very broad midvein, the awn longer than the palea, rather rigid, nearly barbellate.

Near Antioch, Calif., Mrs. Curran, 1886, the type in Herb. Calif. Acad. Some pretty genuine *M. attenuata* was collected at the same time; but the robust habit and very peculiar smooth achenes mark this rather strongly.

*M. PARVULA.* Dwarf, as compared with *M. attenuata*; only 2 or 3 inches high, but with long cylindric involucre large in proportion: achenes light-brown, 3 lines long, almost cylindric, the only slightly narrower upper and vacant portion of the pericarp comparatively short; none villous, all with serrulate-scabrous striae; pappus white, the narrower cymbiform palea densely white-villous, surmounted by a subplumose awn of about its own length.

Hill tops near Antioch, Calif., Mrs. Curran, 1883 or 1884. The plant was at first named by me, in the Calif. Acad. herbarium as a variety of *M. attenuata*.

*M. PARISHII*, Greene, Bull. Calif. Acad. ii, 46, in part, and as to the plant of Parish only. As to the habit, involucre, etc. much like *M. attenuata*, but achenes only  $2\frac{1}{2}$  lines long, scarcely narrower at summit (though not filled by the seed), and almost columnar; lanceolate paleæ of the pappus glabrous, very dark-colored, as long as the achene itself, and attenuate to a much shorter awn, this little more than a line long.

The originals of my former *M. Parishii*, when all their characters have been duly considered, are seen to represent three species. Dr. Parry's specimen is allied to *M. Bigelovii*, if not, indeed, a form of that species; and my own specimens from