

wings developing; vittæ 4-5 in the intervals, 8 upon the commissure.—Whole plant purplish; near *C. terebinthinus*, Nutt. New Mexico (Palmer, 1869). Northern Arizona (Mrs. E. P. Thompson). In damp, shaded soil; March.

PEUCEDANUM NEWBERRYI.—Acaulescent or nearly so, glabrous or somewhat viscid-pubescent; leaves ovate or oblong in outline, 1-2' long, shorter than the petioles, pinnately 3-foliolate; upper leaflet 3-lobed, the lower 2-lobed and sessile, lobes sparingly incised; peduncle exceeding the leaves; umbel naked, unequally 4-8-rayed; involucler foliaceous and unilateral, the 4-8 very unequal segments oblong, acute or obtuse, mostly exceeding the flowers; calyx-teeth ovate to linear-lanceolate, acute; petals yellow; disk broad; fruit glabrous, ovate, exceeding the short pedicels.—Remarkable for its conspicuous foliaceous involucler. Fruit immature, but sufficiently grown to show its character. New Mexico (Dr. Newberry, on the Mexican Boundary Survey); Northern Arizona, on stony soil (Mrs. E. P. Thompson). April.

ANGELICA WHEELERI.—Tall and stout, roughly puberulent; leaves biternate; leaflets ovate-oblong, 2-3' long, acute, incisely serrate, the teeth broad and mucronulate, middle leaflet petiolulate; involucler and involucler none; rays numerous, unequal, becoming 2-5' long; pedicels and ovary hispid; petals apparently white; fruit broad-elliptical, 3' long, subpubescent, the dorsal wings thick, narrower than the lateral ones.—Utah (Wheeler).

GARRYA FLAVESCENS. (*Garrya* —?, Watson, *King's Rep.* 5, 421).—Pubescence silky, appressed; leaves elliptic-oblong, 1-2½' long, acute at each end, entire, glabrate above, margin revolute; petioles 3-6" long; aments pendulous; bracts 6-10 pairs, broad-ovate, connate, foliaceous, acute or the lower acuminate; sterile aments 1-2' long, loose, the flowers (1-3 together) on pedicels equaling or exceeding the bracts; fertile aments 1' long, dense, with solitary flowers and densely pubescent fruit.—Frequent from Southern Nevada and Utah to Arizona and New Mexico; growing 5-8' high, and flowering in March.

BRICKELLIA (CLAVIGERA) LONGIFOLIA.—Slightly scabrous, very slender, with spreading branches; leaves 2-5' long, linear, acuminate, entire or obscurely sinuate-toothed, flat with scabrous margins, 3-nerved; punctulate; flowers on short slender pedicels, axillary and in small terminal clusters; involucler glabrous, 2" long, the spreading scales acutish, or the linear inner ones obtuse or truncate; achenium 10-striate, slightly and minutely hairy on the angles, nearly 1" long, the soft minutely barbulate pappus but little longer.—Southern Nevada (Wheeler); Northern Arizona (Mrs. E. P. Thompson). In a damp cañon; April.

HAPLOPAPPUS CERVINUS.—Low, 6' high, suffruticose, resinous-scabrous, the short herbaceous stems leafy to the top; leaves oblong-lanceolate, 4-6" long, shortly cuspidate, attenuate to the base, entire, subscabrous, 3-nerved; heads 3-4" long, in 3-5-flowered terminal corymbs; outer scales linear, acuminate, with setaceous spreading tips, the inner chartaceous, acutish, with scarious lacerated margins, erect, nearly equaling the pappus; rays few, narrow and short; style exserted; achenia linear, pubescent.—Nearest to *H. suffruticosus*, Gray. Antelope Cañon, Utah (Wheeler).

LAPHAMIA MEGALOCEPHALA.—Scabrous-pubescent; stems diffusely branched, 1' high; branches simple; leaves alternate, broadly ovate, 2-3" long, smaller upon the branches, entire, very shortly petioled; heads large, 2-3" in diameter, terminal and solitary, discoid, many-flowered; achenia compressed, hispid; pappus none.—With nearly the habit of *L. Stansburii*, Torr. Nevada (Wheeler).

VIGUIERA RETICULATA.—White-tomentose; stems herbaceous; leaves subopposite, coriaceous and rigid, broad-ovate, 1-2' long, cordate at base, acute, entire, shortly petioled, strongly reticulated beneath; bracts small, lanceolate; heads 4-5 together in short close corymbs; involucler scales imbricated in 3-4 series, lanceolate, thick, appressed or with spreading tips; rays entire; receptacle shortly conical; chaff acutish; achenia silky, the pappus-awns subulate at base, the scales lacerate.—Telescope Mountain, Southeastern California (Wheeler).

CHÆTADELPHA * *WHEELERI*, Gray MS.—Stems numerous, 1° high, flexuous; leaves

* *CHÆTADELPHA*, Gray MS. (New Genus of *Cichoraceæ*). Heads about 5-flowered. Involucler cylindrical, of 5 linear 1-nerved scales in a single row and several small imbricated scales at base. Receptacle naked. Ligules short. Achenia linear, glabrous, 5-angled, somewhat striate between the prominent angles, slightly thickened upward. Pappus of a single row of

linear-lanceolate, 1-2' long, acute, entire, rather rigid; flowers apparently rose-color; involucre 6" long, shorter than the brownish pappus; achenia 3-4" long.—With the habit of *Lygodesmia juncea*. Southern Nevada (Wheeler).

GILIA (NAVARETTIA) DEBILIS.—Slender, 1-2' high, leafy above; pubescence minute or hirsute; leaves alternate, $\frac{1}{2}$ -1' long, oblong, attenuate into a short petiole, entire, or some of them broader and 3-lobed; bracts entire, resembling the leaves, twice longer than the calyx; flowers nearly sessile; calyx-teeth ovate-triangular, shorter than the tube; corolla funnel-form, 8" long, with elongated tube and deeply lobed limb, light-purple; the stamens upon the throat, exserted; capsule 1" long, the cells 1-seeded; seeds without mucilage or spiracles.—Utah (Wheeler). Without the pinnatifid pungent lobing of the leaves and bracts which is usual in the section.

CONVOLVULUS LONGIPES.—Glabrous, glaucous, twining; leaves linear, 1' long or less, entire or auricled at base, petioled; peduncles elongated, 2-6' long, mostly strict, 2-3-bracted, usually 1-flowered; bracts linear; calyx-lobes rounded, obtuse or emarginate; corolla funnel form, $1\frac{1}{4}$ ' long, yellowish.—Southern Nevada (Wheeler).

FRAXINUS CORIACEA.—Leaflets 3-5, coriaceous, obovate or oblong, 1-2' long, truncate or rounded at the apex or acutish, attenuate or abruptly contracted at base, sparingly toothed, mostly rather long-petiolate, glabrous, or with the petioles pubescent when young; fruit 1' long, terete at base, widening into an oblong obtuse wing; calyx persistent.—Ash Meadows, Nevada (Wheeler), and Devil's Run Cañon, Arizona (Bigelow), on the Mexican Boundary Survey.

OXYBAPHUS GLABER.—Glabrous; panicle large and open; bract-leaves oblong, sessile; flowers solitary, on slender pedicels 2-3" long, becoming deflexed; involucre 1-flowered; calyx shorter than the involucre; fruit glabrous, oblong, strongly tuberculate between the prominent ribs.—Lower leaves not collected but the species is otherwise strongly marked; fruit much as in *O. glabriifolius*. Kanab, Utah (Mrs. E. P. Thompson). In dry soil; October.

ABRONIA VILLOSA.—Pubescence more or less densely villous, subglandular, spreading; stems weak and slender; leaves $\frac{1}{2}$ -1' long, oblong or ovate, obtuse or acutish, attenuate into a slender petiole; heads 5-10-flowered; involucre scales narrowly lanceolate, long-acuminate, 3-4" long; flowers pink, the lobes obcordate with a deep sinus; fruit with a firm body, strongly reticulate-pitted, the 3-5 broad wings consisting of a simple lamina, usually truncate above.—Nearest to *A. umbellata*. Arizona (Wheeler).

ERIOGONUM THOMPSONÆ. (§ *Corymbosa*).—Branches short, subwoody, ascending, leafy, bearing a long naked peduncle; stem, petioles and under surface of the leaves white-tomentose, otherwise glabrous; leaves broad-oblong, $1\frac{1}{2}$ ' long, acute at each end, long-petioled; scape 1" high, rigid, repeatedly trichotomous above, and tribracteate at the nodes; involucre 5-toothed and strongly 5-angled; flowers yellow, naked, the segments of the perigonium nearly equal.—Whole plant yellowish. Sand-cliffs near Kanab, Utah (Mrs. E. P. Thompson). September.

QUERCUS UNDULATA, Torr.—The common low oak of the Rocky Mountains and Wahsatch, ranging southward to New Mexico and Southern Utah. An examination of considerable material shows that it is quite variable in its foliage and includes several reputed species and forms. The typical form has oblong leaves with acute or acutish entire divaricate mostly triangular lobes, the sinuses reaching half-way to the midrib. This is also *Q. Fendleri*, Liebm. With large leaves and the lobes sometimes coarsely notched it becomes *Q. Gambellii*, Nutt., and *Q. Douglasii*, var. *Neo-Mexicana*, A. DC. With the lobes more obtuse it is *Q. alba*, var. (?) *Gunnisoni*, Torr.; and with the lobes less divaricate and more oblong, frequently notched at the apex, and the rounded or narrow sinuses reaching often nearly to the midrib, it is the more prevalent northern form, *Q. obtusiloba*, var. *depressa*, Nutt., and var. *Utahensis*, A. DC. The extreme states appear quite distinct, but intermediate forms abound and there seems to be nothing in the flowers or fruit to distinguish them.

SALIX NEVADENSIS.—Aments short, 6-8" long, appearing with the leaves, ascending on leafy peduncles; scales oblong, obtuse, glabrous, or subsilky in the male aments, light-colored; stamens 3, free; capsules glabrous even when young, on pedi-

barbulate bristles, those at the angles stout and rigid, the few intermediate ones shorter, capillary and more or less united to them.—A smooth, diffusely branched, herbaceous perennial, with alternate leaves and solitary terminal flowers.