

unequal outer involueral bracts, the dense pubescence on inner face of inner involueral bracts, the type of pubescence on the short stout corollatube, the peculiar anther-appendages, and in other details. In some of these features *Y. parva* also shows affinity with *Y. conjunctiva*.

3. *Youngia conjunctiva* sp. nov. (Fig. 4)

Herba perennis, 10–15 cm alta; caudex rectus, ligneus, foliosus; folia caudicalia brevia, angusta, oblanceolata, tomentulosa; folia caulina acuminata vel linearia; caulis fistulosus, multiramis, paniculatus, in formam corymbi, rami cum 1 vel 2 capitulis; pedunculi dense tomentosi; capitula media, 13–18-flora; involucre viridissimum, glabratum; squamæ externæ longæ; receptaculum glabratum; corolla circa 16 mm longa, flava; antheræ 5 mm longæ, virides; achænia parva, fusca, forte attenuata, paululum compressa, cum costis inæqualibus; pappus albus, inæqualis, persistens.

Perennial, 8 to 12 cm high; caudex vertical, woody, brown with bases of old leaves, up to 15 mm long, 6 mm wide, prolonged into a very slender taproot, leafy at crown; caudical leaves ascending, up to 6 cm long, 1.2 cm wide, oblanceolate, obtuse or acute, sinuately dentate or runcinate-pinnatifid, attenuate into a short, broadly winged petiole, margin narrowly retrorsely revolute, sparsely canescent-tomentulose on both sides with long many-celled piliform trichomes; cauline leaves similar but acuminate, lateral segments narrow, salient, acuminate, uppermost linear or bractlike; stem stramineous, erect, terete, striate, fistulose, canescent-tomentulose, paniculately branched from base to summit, lower branches elongate, $\frac{1}{2}$ as long as stem or sometimes lacking, upper branches shorter, the uppermost 4 or 5 in a corymbiform cluster, pedunculate or rarely 2-headed; peduncles densely canescent- or fuscous-tomentulose near head with many-celled trichomes as on leaves; heads erect, medium, 13- to 18-flowered; involucre cylindric-campanulate, 10 to 11 mm long, 4 mm wide at middle in anthesis, very dark green; outer involueral bracts 6 to 8, unequal, longest $\frac{1}{3}$ to $\frac{1}{2}$ as long as inner bracts, lanceolate, acute, white-ciliate at tip, glabrous on both sides; inner bracts 10 to 12, lanceolate, acute, white- or yellow-ciliate at tip, densely pubescent on inner face with appressed yellow shining hairs, dorsally glabrous with darker median nerve, becoming brown at base and slightly carinate in young fruiting heads; receptacle areolate, naked; corolla about 16 mm long; ligule 1.5 mm wide; teeth 0.4 to 0.6 mm long, conspicuously gland-crested, hooded with small apical anterior protuberance; corolla-tube about 5 mm long, glabrous except a few stout nearly cylindric hyaline hairs up to 0.15 mm long; anther-tube 5×1.3 mm dis.; filaments extend beyond appendages 1 mm; appendages about 0.75 mm long, oblong, acute, united; style-branches 2.25 mm long, 0.15 mm wide, semicylindric, obtuse, yellow; achenes (immature) dark brown, about 2 mm long, 0.75 mm wide, compressed, fusiform, strongly attenuate to the narrow (0.3 mm wide) summit, with expanded pappus-disk, constricted at the calloused hollow base, 12-ribbed, ribs unequal, 3 to 5 stronger, finely spiculate; pappus white, brownish at base, about 7 mm long, 2-seriate, united at base, coming away in clumps, unequal in length and coarseness, some

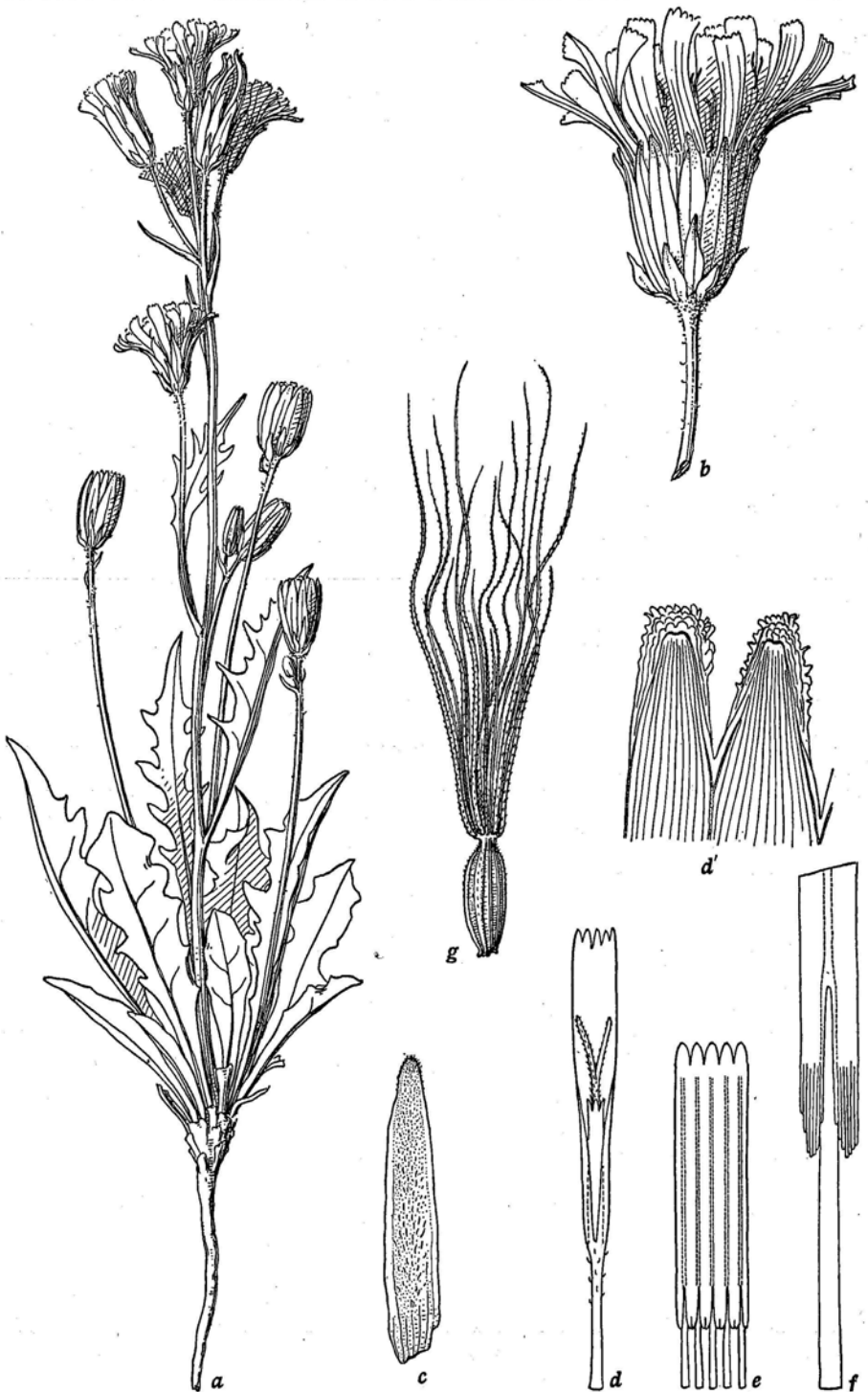


FIG. 4—*Youngia conjunctiva*, from type (UC 489434): a, plant, $\times 1$; b, flowering head, $\times 2$; c, inner involucre bract, inner face, $\times 4$; d, floret lacking ovary, $\times 4$; d', detail of ligule-teeth, $\times 50$; e, anther-tube, $\times 8$; f, detail of appendages, $\times 32$; g, young achene with pappus, $\times 8$.

bristles much stronger, soft, barbellulate, persistent. Flowers yellow, anthers green, style yellow.

Known only from the type locality. Collected July to August, 1925, with flowers and young fruits.

CHINA: southwestern Kansu, upper Tebbu region, "grassy slopes at foot of Shimen," 3636 m alt., *Rock 13062* (UC 489434 *type*, B cotype).

RELATIONSHIP

Closest to *Y. parva*, from which it differs strikingly in its habit. In this respect it approaches *Y. Wilsoni* and *Y. fusca* of section *Mesomeris* and through them shows a connection with section *Euyoungia*. But its closest affinity is with the tufted perennials in size and habit of the plant, in the tomentose peduncles, and in floral characters.

4. *Youngia simulatrix* (Babcock) comb. nov. (Fig. 5)

Low tufted perennial; caudex slender, vertical, simple or 1-branched, covered with brown bases of old leaves; leaves rosulate, up to 6 cm long,

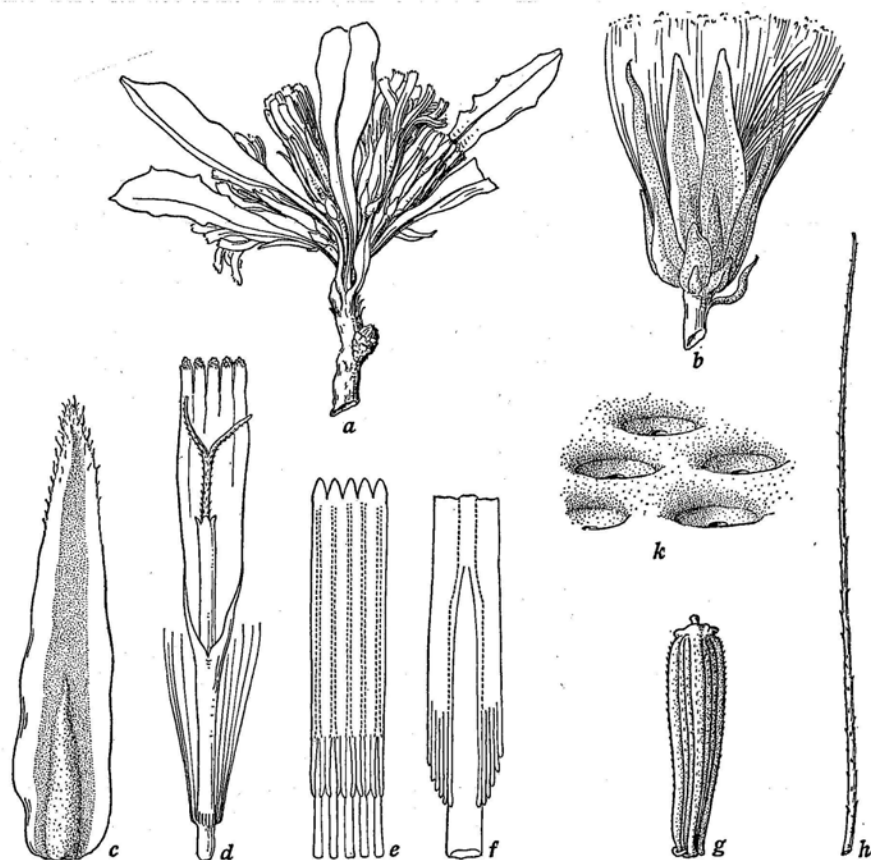


FIG. 5.—*Youngia simulatrix*, from type (BB) and cotypes: *a*, plant, $\times 1$; *b*, mature head, $\times 2$; *c*, inner involucre bract, dorsal, $\times 4$; *d*, floret, $\times 4$; *e*, anther-tube, $\times 8$; *f*, detail of appendages, $\times 32$; *g*, *h*, achene and pappus-bristle, $\times 8$; *k*, detail of receptacle, $\times 25$.