

long, densely pubescent with several-celled acicular hairs up to 0.15 mm long; anther-tube green,  $3.75 \times 1$  to 1.25 mm dis.; filaments extend beyond appendages about 0.7 mm; appendages 0.5 to 0.7 mm long, lanceolate or oblique, acute; style-branches about 1 mm long, yellow; achenes dark brownish purple, 2.2 to 3 mm long, 0.5 to 0.6 mm wide, sub-compressed, more strongly attenuate toward summit, summit a very short neck 0.15 to 0.25 mm wide, pale, with slightly expanded white pappus-disk, constricted near base, base 0.2 to 0.25 mm wide, hollow, lightly calloused, 14- to 15-ribbed, ribs unequal, 3 to 5 stronger, rounded, strongly spiculate near summit; pappus white or pale yellowish, slightly exceeding bracts, 3 to 4 mm long, 2-seriate, straight, soft, persistent. (*Crepis heterophylla* Hemsl., in Jour. Linn. Soc. 23:475, 1888.)

Western China, in western Hupeh, southern Szechwan, southwestern Hunan, and southern Yunnan; also known from one station in Fukien Province, where it may be adventive.

CHINA: Hupeh Province, Ichang and immediate neighborhood, *Henry* (K), *type*; Hupeh Province, *Henry 3440* (US 800568), *type*; *ibid.*, Patung Hsien, *Chow 171* (UC); southern Szechwan Province, Techang, bank of small stream, *Schneider 799* (B); *ibid.*, Nanchwanhsien, roadside, 1500 to 1800 m alt., *Fang 1360* (B); Fukien Province, Inghok gaing, *Metcalf 851* (UC); southwestern Hunan Province, Yünshan Mountain, near Wukang above Gwanyingo temple, about 1250 m alt., *Handel-Mazzetti 12078* (B, UC); Yunnan Province, Mengtze, *Henry 9788* (NY).

#### RELATIONSHIP

Closest to *Y. longipes*, from which it is easily distinguished by the longer, dark-purplish achenes and the straight, 2-seriate pappus; and the cauline leaves differ notably in shape. Close also to *Y. Rosthornii*, which is very distinct in leaf shape and in the somewhat beaked achenes.

The leaf-shape differences between *heterophylla* and its congeners are striking and constant. Even though there is considerable variation in minor details in the caudical leaves within *heterophylla*, yet these leaves are always lyrate with a very large terminal segment, and the middle cauline leaves are 5- or 3-lobed with lanceolate-acuminate segments.

*Y. heterophylla* is also related to *Y. japonica*, as noted by Hemsley (*loc. cit.*), but it is much more distinct from *japonica* than he assumed. Hemsley's opinion that *heterophylla* approaches very closely to the form of *Y. japonica* formerly treated as a distinct species under the name of *Y. runcinata* DC. is not supported by examination of the type of *Y. runcinata* DC. in Herb. DC.

#### 21. *Youngia bifurcata* sp. nov. (Fig. 26)

Herba perennis, humilis, foliata, cum capitulis parvis; folia caudicalia lyrata, pinnatifida, lobus terminalis ovatus, obtusus, lobi laterales congesti, semi-orbiculares vel triangulares, petiolus brevis dense pubescens; folia caulina pauca, plerumque parva, bracteae similes; caules cum floribus recti, graciles, bifurcati, rami cum 1-2 capitulis; caulis horizontalis vel stolo foliosus, folia caudicalia similia; capitula parva, circa 12-flora; involucrium cylindricum, glabrum; corolla circa 12 mm longa,



FIG. 26—*Youngia bifurcata*, from type (UC 386713): a, plant,  $\times 1$ ; b, flowering head,  $\times 4$ ; c, c', inner involucral bract,  $\times 4$ ; d, floret lacking ovary,  $\times 4$ ; e, anther-tube,  $\times 8$ ; f, detail of appendages,  $\times 32$ ; g, h, achene and pappus-bristle,  $\times 8$ ; i, young head,  $\times 4$ .

flava; antheræ 3.5 mm longæ, virides; achænia circa 3.5 mm longa, subrufa-fusca, cum costis inæqualibus; pappus albus, circa 2.5 mm longus.

Perennial, 12 to 13 cm high; caudex very short, about 8 mm wide, bearing strong fleshy fibers, numerous leaves, several flowering stems, and one horizontal leafy stoloniform stem; caudical leaves up to 10 cm long, 2 cm wide, oblanceolate, obtuse, lyrate-pinnatifid, terminal segment ovate or elliptic, lateral segments close, semiorbicular or triangular, retrorse, gradually diminishing, all segments obscurely papilliform-denticulate, denticles becoming corneous, petiole short, narrowly winged, midrib prominent, pale, like stems pubescent on both sides with brownish many-celled piliform trichomes longer and denser on midribs and base of petioles and stems; leaves of flowering stems mostly reduced, bractiform, the first one sometimes like caudical leaves but smaller; leaves of stoloniform stem like caudical leaves; stems several, slender, erect or arcuate, remotely 2-furcate, densely pubescent at bifurcations, branches 1- to 2-headed; peduncles 1.5 to 4.5 cm long, very slender, 1-bracteate, finely pubescent; heads erect, small, about 12-flowered; involucre cylindric, 6 to 7 mm high, glabrous; outer involucral bracts about 7, pale yellowish, somewhat carnose, 1 to 2 mm long, ovate, acute or obtuse; inner bracts 8, green, lanceolate, acute, white-ciliate at the brown dorsally swollen tip, ventrally pubescent with appressed, shining hairs, mediodorsally nerved, becoming carinate near base in fruit; corolla about 12 mm long; ligule about 2.5 mm wide; teeth 0.2 to 0.5 mm long, brownish at tip *in sic.*, conspicuously gland-crested; corolla-tube about 3 mm long, densely pubescent with stout acicular hairs up to 0.2 mm long; anther-tube  $3.5 \times 1.25$  mm dis., green; filaments extend beyond appendages about 0.4 mm; appendages 0.6 mm long, oblong, obtuse, united; style-branches 2.25 mm long, 0.1 mm wide, attenuate at tip, yellow; achenes, not fully mature, dark reddish brown, 3 to 3.5 mm long, about 1 mm wide, compressed, fusiform, shortly attenuate to the narrow (0.15 mm wide) summit, with expanded white pappus-disk, less attenuate to the constricted narrow hollow lightly calloused base, 12- to 14-ribbed, ribs rounded, strongly spiculate at summit; pappus white, 1-seriate, the bristles very unequal, 1.5 to 2.5 mm long, soft, barbellulate, fine, broader and united at base, coming away in clumps, persistent. Flowering April; flowers yellow, anthers green, styles yellow.

Known only from the type locality.

CHINA: Yunnan, Tong-tchouan (= Tunghwan?), 2500 m alt., cultivated land, *E. E. Maire 2574* (UC 386713) *type*.

#### RELATIONSHIP

Although typically *Youngia*, this distinct species has no very close relatives among the species thus far known. In leaves, involucre, flowers, and fruits, it shows most resemblance to *Y. japonica genuina*; but the heads, florets, and achenes are much larger and the pappus relatively much shorter; moreover the few-headed, furcate flower-stems and the horizontal, leafy, stoloniform stem are unique.