

This subspecies differs from subsp. *typica* chiefly in its smaller heads and florets. The former is very constant in the size of the floral parts, however, while the two specimens cited under subsp. *Handelii*, both of them collected south of the range of subsp. *typica* are also closely similar in this respect. Subsp. *Handelii* forms a morphological transition from subsp. *typica* to subsp. *occidentalis*, resembling the latter as much as the former.

7-c. *Soroseris Gillii hirsuta* (Anthony) comb. nov. (Fig. 11, *e-f*)—Leaves, inflorescence, and involucre bracts conspicuously hirsute; leaves runcinate pinnatifid, the blade 2–4.5 cm long, 0.5–1.3 cm broad; involucre 12–15 mm long, the inner bracts acute at the apex, yellowish-green in color, densely hirsute with long, whitish trichomes; corollas 15–19 mm long, the tube 5.5–6.5, the ligule 9–12 mm long; anthers 4.8–5 mm long; pappus setae 12–14 mm long, stramineous but grayish toward the apex. (*Crepis Gillii* var. *hirsuta* Anthony, Notes Bot. Gard. Edinb. 18: 193. 1934.)

Northwestern Yunnan and southeastern Tibet. The following have been seen:

CHINA: Yunnan Prov., Bei-ma Shan, alt. 4240 m, *Forrest 14500* (B); northeast of Atuntze, alt. 4240–4540 m, *Forrest 20059* (UC, B); Mekong-Salwin divide, alt. 4090–4240 m, *Forrest 20088* (B); Mekong-Yangtze divide, east of Yeh-chih, alt. 4090–4240 m, *Forrest 20367* (part, B). TIBET: Salwin-Kiu-chiang divide, Tsarong, *Forrest 19054* (B).

This subspecies differs from subsp. *typica* only in the pubescence of the plant, the shape and color of the inner bracts, and the color of the pappus, but each subspecies is quite constant in these respects within its range.

7-d. *Soroseris Gillii occidentalis* subsp. nov. (Fig. 11, *g-h*)—Folia lanceolata, 2–4 cm longa, 0.5–1 cm lata, apice acuta, runcinato-pinnatifida, dentata, vel integra; involucre 11–14 mm longa, phyllis interioribus hirsutis; achaenia 5–6.5 mm longa; pappi setae 11–12.5 mm longae, ad apicem griseae, ad basim stramineae.

Leaves on slender petioles, the blade lanceolate, 2–4 cm long, 0.5–1 cm broad, acute at the apex, shallowly runcinate-pinnatifid, coarsely dentate, or sometimes merely denticulate; involucre 11–14 mm long, rather lightly hirsute or occasionally glabrate; achenes 5–8.5 mm long, reddish brown; pappus setae 11–12.5 mm long, gray at the apex, stramineous toward the base. (*Crepis glomerata* Hook. f., Fl. Brit. India 3: 398, in part, not *Prenanthes glomerata* Decne.)

Western Himalaya in Kumaon, Garwhal, and adjacent Tibet. The following have been seen:

INDIA: Garwhal Province (Tehri) Gangotri, alt. 4240–4550 m, *Keshavanand 31* (K, type; DD); Dudu Gadh, alt. 4550–4700 m, *Duthie 824* (K, DD); Kalajowar, *Strachey and Winterbottom 2* (G); Kumaon Province, Ralam Valley, *Duthie 24526* (K, DD); Barji Kang, *Strachey and Winterbottom 2* (K). TIBET: Meyin Madden, *Strachey and Winterbottom 2* (K).

This subspecies is very close to subsp. *hirsuta*, a surprising fact considering the distance that separates them. The exact relationships between these two subspecies, as well as between subsp. *occidentalis* and *C. Hookeriana* subsp. *typica*, will be clearer when more is known about the *Sorosseris* flora of Nepal and southeastern Tibet.

8. *Sorosseris Hookeriana* (C. B. Clarke) comb. nov. (Fig. 11, *i-n*)—Stems sometimes short, but more often well developed, 4–35 cm tall; cataphylls few or none; leaves lanceolate or oblanceolate, runcinate-pinnatifid, dentate, denticulate, or entire; inflorescence flat, hemispherical or ovoid; involucre 7–12 mm long; inner bracts 4, olive or blackish green, sometimes paler below, glabrous, hirsute toward the base, or rarely hirsute throughout, the lower pair 1.2–2 mm broad, usually acute at the apex, the upper pair 2–3.5 mm broad, with broad, scarious margins, acute, obtuse, or sometimes rounded at the apex; florets 4; corollas 10–17 mm long, the tube 3–6 mm, the ligule 6.5–12 mm long; anthers blackish or greenish, 3.5–5.5 mm long; mature achenes columnar, obovoid, or occasionally fusiform, all nearly terete, 3.5–6.5 mm long; pappus setae gray or stramineous toward the base, 6.5–11 mm long.

Eastern Himalaya north to northwestern China, in meadows, stony pastures, and talus slopes (scree), at altitudes of 3300–5100 m.

This is the most widespread and the most frequently collected species of *Sorosseris*. It is the only one in which well developed, hollow stems are usually found. Its range is in general similar to that of *S. Gillii*, but in Western China *S. Gillii* is confined to the southern part (Yunnan, southwestern Szechuan), while *S. Hookeriana* occurs principally farther north (Kansu, Shansi) and extends southward through Tibet to the Sikkim Himalaya. Two subspecies of *S. Hookeriana* may be recognized and distinguished by the following key:

Leaves pinnatifid, acute at the apex; upper leaves, bracts of the inflorescence and peduncles strongly hirsute; pappus setae 7–9 mm long.....a. subsp. *typica*

Leaves entire or denticulate, obtuse at the apex; upper leaves, bracts of the inflorescence and peduncles glabrous or sparingly hirsute.....b. subsp. *erysimoides*

8-a. *Sorosseris Hookeriana typica* nom. nov. (Fig. 11, *m-n*)—Stems 4–20 cm tall, hollow; leaves lanceolate, the blade 2–7 cm long, 0.3–1.5 cm broad, pinnatifid, the lobes and apex acute; upper leaves, bracts of the inflorescence, peduncles, and outer involucre bracts densely hirsute with long, yellowish trichomes; involucre 8.5–10 mm long; inner bracts glabrous, hirsute at the base, or occasionally hirsute throughout; pappus setae 7–9 mm long, grayish at the summit, dirty white, stramineous or yellowish on the lower part. (*Crepis Hookeriana* C. B. Clarke, Comp. Ind. 255, 1876, non Bal.; *Crepis glomerata* Hook. f., Fl. Brit. India 3: 398, 188, in part, not *Prenanthes glomerata* Decne.).



Fig. 11. *a-h*, *Soroseris Gillii*: *a-b*, subsp. *typica*, from Rock 16630 (UC): *a*, leaf,  $\times 1$ ; *b*, involucre,  $\times 2$ ; *c-d*, subsp. *Handelii*, from type (B): *c*, leaf,  $\times 1$ ; *d*, involucre,  $\times 2$ ; *e, f*, subsp. *hirsuta*, from Forrest 19054 (B): *e*, leaf  $\times 1$ ; *f*, involucre,  $\times 2$ ; *g, h*, subsp. *occidentalis*, from type (K): *g*, leaf,  $\times 1$ ; *h*, involucre,  $\times 2$ . *i-n*, *Soroseris Hookeriana*: *i-l*, subsp. *erysimoides*, from Rock 12645 (UC, G): *i*, habit,  $\times \frac{1}{2}$ ; *j*, leaf,  $\times 1$ ; *k*, involucre,  $\times 2$ ; *l*, corolla,  $\times 4$ ; *m-n*, subsp. *typica*, from Hooker, s.n. (K).