

involucre 11 mm long, campanulate, canescent-tomentose, strongly setose on both outer and inner bracts with black glandless setae; outer bracts 7, narrowly linear, unequal, longest about $\frac{1}{2}$ as long as inner ones; inner bracts 13, lance-linear, obtuse or acute, glabrous on inner face, becoming indurate but not much thickened in fruit; receptacle areolate, fimbriate; corolla about 13 mm long; ligule 1 mm wide; teeth 0.2–0.3 mm long; corolla tube 5 mm long, sparsely pubescent with 1–2-celled acicular hairs 0.05–0.2 mm longer; anther tube about 4×0.5 mm dis.; appendages 0.6 mm long, narrow, lanceolate; filaments about 0.75 mm longer; style branches 1 mm long, 0.1 mm wide, yellow; achenes brown, 7 mm long, 0.7 mm wide, fusiform, strongly attenuate into a beak 0.25 mm wide and nearly equal to the body, pappus disk 0.5 mm wide, slightly narrowed to the calloused base, about 16-ribbed, ribs very narrow, finely spiculate; pappus yellowish-white, 7 mm long, 2-seriate, rather fine, soft, persistent. Flowering Feb.; flowers yellow.

Known only from the type locality, where it was collected in February, 1907, by J. Gossweiler.

Monomorphic.

Angola: near Cului, in woods composed chiefly of *Berlinia Baumii*, Gossweiler 2895 (BM).

A fragmentary specimen from S. Belgian Congo, in Herb. Hort. Bot. Bruxelles, is evidently closely related to *C. Gossweileri* but differs in the densely setulose upper stem and peduncles, the short setules on the involucre bracts, the pubescence on inner face of the inner bracts, the smaller florets with much shorter anther tubes, and the shorter pappus. The achenes and pappus are similar, however, and until more material is available of both *C. Gossweileri* and this form, the latter's status remains in doubt.

Relationship

Crepis Gossweileri is closest to *C. Newii bumbensis*, from which it is very distinct in the tall, nearly leafless stems which are branched only near the summit, the narrower, strongly setose involucre, the narrower corollas and anther tubes, the longer beaked achenes, and the longer pappus. In its narrower involucre, unusually narrow florets, and more conspicuously beaked achenes, this species is more specialized than *C. Newii*, although the setaceous involucre merely becomes indurate and little thickened in fruit.

53. *Crepis Friesii* sp. nov.

(Fig. 90.)

Herba perennis 4.5 dm alta; caudex rectus 5 mm latus fuscus; folia caudicalia pauca 5 cm longa 1.4 cm lata elliptica vel obovata papilloso-denticulata breve petiolata superne pubescentia, pilis brevis tenuis pallidis eglandulosis; folia caulina 2 (bractea exclusae) remota oblanceolata vel linearia; caulis rectus tenuis glabrus vel paululum scabridulus ad summitatem 2-furcatus cum 3 capitulis; pedunculi 1.2–3.5 cm longi tenuissimi cum 6–7 squamis parvis linearibus circa 0.3 mm latis capitulam subtendentibus; capitula recta parva circa 17-flora; involucrea cylindrico-campanulata 7 mm longa 3–4 mm lata nigrescentes scabra, setulis brevis eglandulosis, squamis exterioribus nullis vel summotis, squamis interioribus 9–10 lanceolatis ventrale pubescentibus in maturitate induratis sed non incrassatis; corolla 11–12 mm longa, ligula flava 6–7 mm longa 1.5 mm lata, tubo pubescenti, pilis brevissimis papilliformibus et acicularibus; antherae flavae 3.7 mm longae; rami styli 1–1.25 mm longi flavi; achaenia (paene matura) rubido-fusca 5.5 mm longa 0.75 mm lata fusiformia ad summitatem valde attenuata 0.3 mm lata 12-costata superne dense spiculata; pappus flavidus 6 mm longus 2-seriatus, setis aequalibus ad basim 33 micron latis molliusculis persistentibus.

Perennial, 4.5 dm high; caudex vertical, 5 mm wide, covered with brown bases of old leaves; caudical leaves few, up to 5 cm long, 1.4 cm wide, elliptic to obovate, mucronate, papillose-denticulate, narrowed into a short winged petiole with broader clasping base, finely pubescent on upper face with short pale glandless hairs, puberulous on lower face, especially on midrib; cauline leaves 2, excluding

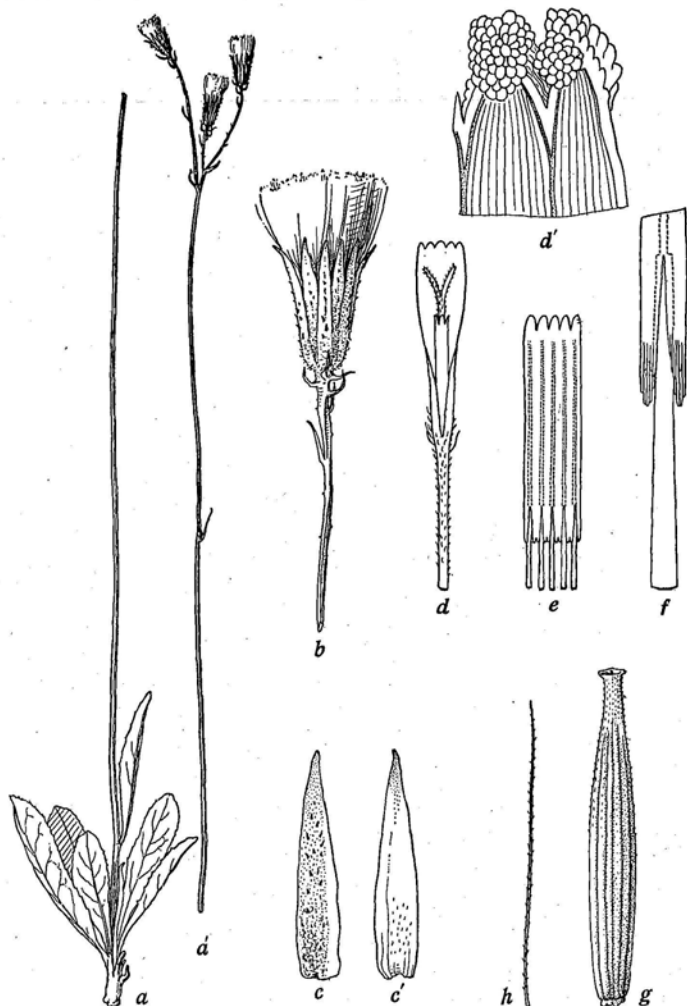


Fig. 90. *Crepis Friesii*, from type (Upsala): *a*, *a'*, plant, $\times \frac{1}{2}$; *b*, fruiting head, $\times 2$; *c*, *c'*, inner involucre bract, outer and inner faces, $\times 4$; *d*, floret lacking ovary, $\times 4$; *d'*, detail of ligule teeth, $\times 50$; *e*, anther tube, $\times 8$; *f*, detail of appendages, $\times 32$; *g*, *h*, achene and a pappus seta, $\times 8$.

bracts, the lower one 3 cm above the caudex, oblanceolate, acute, papillose-denticulate and with a pair of small narrow teeth or auricles at base of blade, very shortly petioled, the upper one 13 cm below the summit, linear, bractlike, subtending an abortive flower head; stem erect or sinuate, very slender, terete, striate, glabrous or somewhat scabridulous above, cymosely 2-furcate near summit, 3-headed; peduncles 1.2–3.5 cm long, very slender, glabrous or scabridulous, slightly thickened near head with 6 or 7 small bracts subtending the head, bracts linear, about 0.3 mm wide, scarious, lax; heads erect, small, about 17-flowered; involucre cylindrical-campanulate, 7 mm long, 3–4 mm wide at middle, blackish in sic., slightly farinose

near base, scabrous with very short black glandless setules; outer bracts absent or displaced to summit of peduncle; inner bracts 9-10, lanceolate, acute or obtuse, white-ciliate at tip, membranous-margined, appressed-pubescent on inner face with short fine shining hairs, becoming indurate but not much thickened in fruiting heads; receptacle (?); corolla 11-12 mm long; ligule 1.5 mm wide; teeth nearly equal, 0.2 mm long; corolla tube about 5 mm long, densely pubescent with very short papilliform hairs and near summit a few coarse acicular hairs up to 0.5 mm long; anther tube 3.7×1 mm dis.; appendages 0.6 mm long, lanceolate, acute, united; filaments equal, 0.75 mm longer; style branches 1-1.25 mm long, 0.1 mm wide, attenuate, yellow; achenes (almost mature) reddish-brown, 5.5 mm long, 0.75 mm wide, fusiform, strongly attenuate upward to the 0.3 mm wide summit, with white pappus disk 0.4 mm wide, constricted above the prominently calloused oblique hollow base, 12-ribbed, ribs rounded, densely spiculate toward summit; pappus yellowish-white, about 6 mm long, 2-seriate, setae nearly equal in length and width, about 33μ wide at base, rather soft, persistent. Flowering Dec.; flowers yellow.

Crepis Rueppellii var. *centrali-africana* R. E. Fr., Svensk Bot. Tidskr. 22: 366. 1928.

Known only from the type specimen, which is the "specimen originale" of *C. Rueppellii* var. *centrali-africana* R. E. Fr. However, not only this, but still another species (cf. *C. Mildbraedii*) was determined by Fries as the above-named variety of *C. Rueppellii*, whereas the other two specimens cited by Fries under this variety are actually of that species.

Monomorphic.

Belgian Congo: Ruanda reg., Busisi-Tal, mountains at south end of Lake Kivu, in short-grass meadows, about 1500 m, *Fries 1507* (Upsala, UCf).

Relationship

In the subtending outer involucre bracts, *Crepis Friesii* is very distinct from every other species of *Crepis*, but it is certainly related to several other central African species, most closely, perhaps, to *C. congoensis*. From the latter it is easily distinguished by the smaller, nearly entire leaves, the single flower stem, the much smaller heads, and the shorter unbeaked achenes, as well as by the peculiar involucre. From *C. Rueppellii* this species differs greatly in habit and leaf characters, as well as in certain floral details, especially the much shorter style branches, and most of all in the scarcely thickened involucre bracts and the reddish, unbeaked achenes. From *C. Mildbraedii* it is equally distinct in its very small, almost entire leaves, its fewer, larger heads, larger florets, and flower parts, and its larger, reddish achenes with coarser ribs and longer, equal pappus setae. Since the pollen grains are regular, 3-pored, and about 26μ in diameter, this is very probably a diploid species.

54. *Crepis Mildbraedii* sp. nov.

(Fig. 91.)

Herba perennis circa 5 dm alta; radix anguste napiformis elongata 7 mm lata; caudex 5 mm latus fuscus; folia caudicalia 10 cm longa 3 cm lata elliptica obtusa irregulariter denticulata in petiolum anguste alatum attenuata pubescentia; folia caulina 2 (bracteae exclusae) 7 et 2 cm longa linearia sessilia; caulis rectus ad basim glanduloso-pubescentis remote 3-5-ramosus super partem mediam, ramis strictis 1-3-capitulis; inflorescentia aggregata subcorymbiformis; pedunculi 1.5-7 cm longi tenui ad summitatem scabridulosi; capitula recta parva circa 30-flora; involucre campanulata 6-7 mm longa circa 4 mm lata tomentulosa scabridulosa, squamis exterioribus 5-6 aequalibus circa 2 mm longis et 0.4 mm latis linearibus, squamis interioribus 10 inaequalibus lanceolatis obtusis ventraliter glabris in maturitate