

oblong toothed or serrate, petiole winged or not, panicle erect elongate branches stout or slender, heads fascicled narrow glabrous, flowers 3-5 rose-purple, achenes narrowed downwards, pappus nearly white. *P. hispidula*, DC. *Prodr.* vii. 195; *Clarke Comp. Ind.* 273. *P. Brunoniana alliarifolia and raphanifolia*, DC. *l. c.*

WESTERN HIMALAYA; from Kashmir to Kumaon, alt. 6-9000 ft.

Stem 1-4 ft., from glabrous to hispid with long spreading hairs, simple or branched. *Leaves* so variable that it is difficult to arrange their forms under any system; 1 (*alliarifolia*), leaves entire, cordate or ovate or oblong, with the base truncate or cordate obtuse or acute, petiole simple slender auricled at the base; 2 (*raphanifolia*), leaves more or less pinnatifid with a terminal ovate lanceolate or deltoid acute terminal lobe to which the leaf is sometimes reduced, petiole broadly winged dilated or not at the base; 3, leaves orbicular or broadly oblong, palmately 3-lobed, lobes cut and toothed, petiole simple or toothed (when the leaf becomes pinnatifid). *Heads* $\frac{1}{4}$ - $\frac{3}{8}$ in.; outer invol. bracts $\frac{1}{2}$ - $\frac{1}{3}$ the length of the inner. *Achenes* $\frac{1}{2}$ - $\frac{1}{3}$ in., narrow, compressed, slightly contracted at the tip; pappus scanty, brittle, white or pale brownish.

3. *P. violæfolia*, *Dcne. in Bot. Jacq. Voy.* 100, t. 108; stem very slender simple quite glabrous or with soft hairs at the top of the petiole, leaves long-petioled ovate-cordate deltoid or hastate tip and auricles obtuse or acute entire or obscurely sinuate-toothed glaucous beneath, petiole simple or winged or dilated at the base, heads racemose or subpaniculate narrow pendulous long-peduncled 5-8-fld., achenes ellipsoid shorter than the white pappus. *Lactuca violæfolia*, *Clarke Comp. Ind.* 269:

WESTERN HIMALAYA; from Kashmir to Kumaon, alt. 9-12,000 ft.

A small very slender species, a foot high, simple or sparingly branched. *Leaves* 1-2 in. long and broad; petiole of the lower 3-8 in., simple or dilated at the base, sometimes into a foliaceous orbicular toothed auricle, rarely with a pair of oblong pinnules below the blade, nerves radiating from the tip of the petiole. *Heads* few, subsolitary, pendulous; invol. bracts $\frac{1}{3}$ in., outer very small, inner linear obtuse. *Achenes* $\frac{1}{3}$ in., contracted at both ends, but not beaked.

4. *P. Hookeri*, *Clarke mss.*; stem simple or branched, glabrous except the petiole and leaf-nerves beneath which are often setose, leaves hastate or cordate obtuse quite entire rarely sinuate uppermost ovate or oblong, petiole not longer than the blade with a broad $\frac{1}{2}$ -amplexicaul wing dilated downwards and auricled at the base, heads 3-6-fld. racemose or paniced narrow pendulous, peduncle long, achenes narrowly elliptic compressed contracted towards both ends about equalling the white pappus. *P. alata*, *Herb. Hook. f. & T.*; *Clarke Comp. Ind.* 274; *Kurz in Journ. As. Soc.* 1877, ii. 207.

KHASIA Mts.; in marshy places, alt. 4-6000 ft. MARTABAN Mts.; dry hills, alt. 5-6000 ft., *Kurz.*

Stem 1-3 ft., quite glabrous, simple and slender or stout and much branched. *Leaves* 1-2 in. long and broad, basal lobes spreading or deflexed; petiole with flexuous hairs underneath and towards the top only, wing gradually narrowed to the insertion of the leaf-blade or below it. *Flowers* blue purple. *Achenes* $\frac{1}{2}$ in., broader and darker than in *P. violæfolia*, from which this differs conspicuously in the short petioles.—Clarke suggests the alteration of the name from *alata*, which should be retained for the *P. (Nabalus) alata*, *Hook. f.*, N. America. Clarke describes the achenes as cylindrical, but I find all to be flattened. I have seen no Martaban specimens.

5. *P. sikkimensis*, *Hook. f.*; quite glabrous, stem elongate very slender flexuous branched, leaves very membranous quite entire with slender petioles winged towards the base simple (not auricled) deltoid with rounded tip and lobes or with a pair of pinnules on the petiole, heads paniced solitary long-peduncled pendulous 5-6-fld., achenes large fusiform compressed equalling the white pappus.

SIKKIM HIMALAYA; Lachen valley, alt. 9000 ft., *J. D. H.*

A very slender branched species, 3-4 ft. high, with membranous leaves 1-1½ in. diam., very glaucous beneath, and heads as in the other species, but achenes ¼ in. long, narrowed towards both ends.

6. **P. scandens**, *Hook. f. & T.; Clarke Comp. Ind.* 274; scandent, glabrous puberulous or pubescent, branched, flexuous, leaves ovate or triangular-ovate acuminate ciliate base truncate cordate or hastate, petiole shorter than the blade quite simple, heads in axillary and terminal panicles with divaricating branches shortly peduncled pendulous glabrous, achenes very slender almost beaked shorter than the whitish pappus.

SIKKIM HIMALAYA, alt. 4-9000 ft., common. UPPER ASSAM; Mishmi Mts., *Griffith.*

A tall flaccid rambling climber, with zig-zag stem and branches. *Leaves* nearly glabrous in Sikkim, pubescent with crisped hairs in Mishmi. *Leaves* 3-5 by 2-3 in., glaucous beneath, margins with strong projecting remote cilia; petiole ¼-1½ in. *Heads* ½ in. long; ligules rose-purple. *Achenes* ½ in., much more slender than in any of the preceding species and more nearly beaked, being much attenuated from above the middle; pappus nearly white.

116. **PICRIDIVM**, *Desf.*

Perennial or annual glabrous milky herbs. *Leaves* radical or alternate, toothed or pinnatifid, lobes often crisped and toothed or spinulose. *Heads* campanulate, yellow, homogamous; fl. all ligulate. *Involucre* campanulate; bracts ∞-seriate, thinly herbaceous, innermost subequal lanceolate unchanged in fruit, outer shorter broader with scarios margins; receptacle flat, naked. *Achenes* oblong, truncate at both ends, constricted at the tip; ribs 4-5, thick, transversely rugose; pappus hairs ∞-seriate, slender, simple, soft, white, connate at the base into a deciduous ring.—*DISTRIB.* Species 5 or 6, Europe, N. Africa, W. Asia.

P. tingitanum, *Desf., Boiss. Fl. Orient.* iii. 827; annual, stem stout, radical leaves elongate-obovate or spatulate obtuse sinuate-toothed or pinnatifid denticulate, cauline ½-amplexicaul auricled, peduncle thickened under the head, invol. bracts cordate with very broad membranous margins and thickened tips, inner oblong, achenes 4-angled or of 4 moniliform ribs. *DC. Prodr.* vii. 182; *Clarke Comp. Ind.* 275. *P. orientale*, *DC. l. c.* *Scorzonera tingitana and orientalis*, *Linn.*

The PUNJAB, *Jacquemont*; Futtchgurh, *Edgeworth*; Tilla rocks and Byree, common, *Aitchison*.—*DISTRIB.* Affghan and Beluchistan, Persia, Arabia, and N. Africa to the Canaries, S. Europe.

Stem 6-18 in., glabrous. *Leaves* 1-5 in., variable in breadth. *Heads* 1½ in. diam. *Achenes* ⅓ in. long, pale, corky; pappus ¼ in., very soft and white.

VAR. subintegra, *Boiss. l. c.* 828; tall, robust, cauline leaves 3-4 in. linear-oblong quite entire or obscurely denticulate.—*Ajmir, Jacquemont.* This looks a very different plant, except in the head, from *P. tingitanum*, being tall, with the stem as thick as a goose-quill and quite entire oblong leaves; it is probably a state growing in rich soil.

117. **SONCHUS**, *Linn.*

Annual or perennial milky herbs. *Leaves* radical or alternate, cauline often stem-clasping, entire toothed or pinnatifid, segments often spinulose-toothed. *Heads* terminal, irregularly subcorymbose umbellate or paniced, yellow, homogamous; fl. all ligulate. *Involucre* ovoid campanulate or cylindric, often dilated thickened and conic at the base; bracts ∞-seriate, herbaceous, outer smaller; receptacle flat, naked. *Achenes* ovoid obovoid or ellipsoid, compressed, not beaked, ribbed, ribs smooth or transversely rugose; pappus copious, hairs ∞-seriate, very slender, simple, usually white and united at the base into a deciduous