

* * * Heads 5-18-flowered, sometimes racemose, usually paniculate, commonly pendulous: leaves diverse, but the cauline nearly all petioled; lower and radical or some of them cordate, or hastate, or truncate at base: root mostly fusiform-thickened or tuberous, as in the preceding: akenes obscurely or minutely striate and sometimes 3-4-costate or angled.

+ Involute cylindraceous, distinctly calyculate with very short and ovate to triangular-subulate appressed scale-like bracts: principal bracts with their covered margins white-scarious in dried specimens. Species variously called WHITE LETTUCE, LION'S-FOOT, RATTLESNAKE-ROOT, GALL-OF-THE-EARTH.

++ Pappus cinnamon-brown: stem tall, generally purplish.

P. álba, L. Glabrous, often glaucescent, 2 to 5 feet high, rather stout: leaves sometimes all deltoid-hastate and nearly dentate, on slender winged petioles, or uppermost oblong with tapering base, or most of them 3-5-lobed or parted: inflorescence thyrsoid-paniculate: involucre 8-12- (rarely 5-) flowered, commonly purplish-tinged: flowers dull white: pappus reddish-brown. — L. as to Hort. Cliff. & Syn. Pluk., not of herb.; Michx. Fl. ii. 83, in part (not of herb. proper); Sims, Bot. Mag. t. 1079; Pursh, Fl. ii. 499; Bigel. Fl. Bost. ed. 2, 286. *P. rubicunda*, Willd. Spec. iii. 2537, excl. syn.; Pursh, l. c. *P. suavis*, Salisb. Parad. Lond. t. 85. *P. Miamensis*, *ovata*, & *proteophylla*, Riddell, Syn. W. Pl., to be divided between this and following species. *Harpalyce álba*, Don ex Steud.; Beck, l. c. *Nabalus trifoliolatus*, Cass. Dict. xxxiv. 95. *N. suavis*, DC. l. c. 241. *N. álbus*, Hook. Fl. ii. 294, chiefly; Torr. & Gray, Fl. ii. 480, excl. var. — Open oak-woods and sandy or gravelly ground, Canada and New England to Saskatchewan, Illinois, and the upper country of Georgia, &c.

++ ++ Pappus sordid straw-color or whitish: leaves diversely variable, assuming all the forms of the preceding species.

P. serpentária, PURSH. Commonly 2 feet high, glabrous or a little hirsute-pubescent: stem sometimes purple-spotted, rather stout: inflorescence corymbosely thyrsoid-paniculate; the heads mostly glomerate at summit of ascending or spreading flowering-branches or peduncles: involucre green, rarely purplish-tinged, 8-12-flowered: flowers purplish, greenish white, or ochroleucous. — Fl. ii. 499, t. 24; Ell. Sk. ii. 261. *P. álba*, L. Spec., as to Pl. Gronov.; Walt. Car. 193; Ell. Sk. ii. 259. *Harpalyce serpentaria*, Don, l. c.; Beck, l. c. *Nabalus trilobatus*, Cass. Dict. l. c.? *N. serpentarius* (Hook. l. c.), *N. trilobatus*, & *N. Fraseri*, DC. l. c. (*N. glaucus*, *Prenanthes glauca*, Raf. Fl. Lud. 57, & *Esopon glaucum*, Raf. l. c. 149, has no foundation.) — Open grounds, commonly in sandy or sterile soil, New Brunswick and Canada to Florida.

Var. nána. Stem more simple and strict, 6 to 16 inches high, smooth and glabrous: inflorescence contracted; often sessile or subsessile clusters of heads in the axils of most of the cauline leaves: involucre livid-greenish. — *P. álba*, var. *nana*, Bigel. Fl. Bost. l. c. *Nabalus nanus* (also *N. serpentarius*, var. *lævis*), DC. l. c.; Torr. & Gray, l. c. A form with leaves pedately parted into narrow divisions is probably *N. trifoliolatus*, Cass. — Mountains of N. New England to Canada, S. Labrador, and Newfoundland.

Var. barbáta. Sometimes hirsutulous-pubescent: leaves from oblong to deltoid-hastate, from denticulate to sinuate-lobed, upper not rarely sessile: involucre sometimes sparingly and sometimes copiously beset with bristles. — *P. crepidínea*, Ell. Sk. ii. 259, not Michx. *Nabalus integrifolius* (Cass. l. c. 96, with "subsagittate" leaves), & *N. Fraseri* in part, DC. l. c. *N. Fraseri*, var. *integrifolius* & var. *barbatus*, Torr. & Gray, Fl. ii. 481. *N.* (*Prenanthes*) *Roanensis*, Chickering in Bot. Gazette, v. 155, vi. 191, a mountain form, a span to a foot high, with most of the leaves hastate-deltoid, and bristles on the involucre copious and conspicuous. — Mountains of N. and S. Carolina to Alabama; apparently first coll. by *Fraser*, then by *Macbride*; the high mountain form by *Chickering* on Roan Mountain. Occasionally a few of these setose hairs are found on the involucre of ordinary *P. serpentaria*, and in this variety some heads are almost destitute of them.

P. altíssima, L. Commonly 3 to 7 feet high, slender, not glaucous, glabrous or nearly so (in open ground sometimes purple-stemmed and hispidual!): leaves thin, disposed to be hastate, deltoid, or cordate, sometimes ovate, and denticulate or dentate; lower not rarely from 3-lobed to pedately 5-parted: panicle elongated and loose, very commonly subsessile clusters in the axils of many cauline leaves: involucre narrow-cylindrical, greenish, always glabrous, 5-6-flowered: flowers greenish-ochroleucous. — Spec. ii. 797, from char., syn. Pluk. (Alm. t. 317) & Vaill., and perhaps herb. (*P. álba*, L. herb., specimen from Kalm, is either this or

P. serpentaria.) *Harpalyce altissima*, Don, l. c.; Beck. l. c. *Nabalus altissimus*, Hook. Fl. i. 294; DC. l. c.; Torr. & Gray, l. c., with named varieties, *ovatus*, *cordatus* (*N. cordatus*, Hook., *Prenanthes cordata*, Willd. Hort. Berol. t. 25), *deltoideus* (*N. deltoideus* & *N. cordatus*, DC. l. c., *Prenanthes deltoideus*, Ell. l. c.), & *dissectus*, all too transitional for preservation. — Woods and shaded banks, Newfoundland to Saskatchewan, Pennsylvania, and to the mountains of Georgia.

+ Involucre campanulate-oblong, of livid or greenish bracts nearly or quite destitute of scarious margins, imperfectly calyculate by 2 or 3 irregular and loose linear accessory bracts, less pendulous than in the preceding; pappus sordid-whitish: plants glabrous or a little pubescent.

P. Boóttii. A span or two high, simple, several-leaved, bearing 7 to 15 racemously disposed heads: leaves deltoid-oblong and obtuse, or somewhat hastate and the upper acute, on margined petioles, uppermost lanceolate, all entire or denticulate, the lamina only an inch or so long: involucre half-inch long, of 10 to 15 obtuse and rather unequal proper bracts, 10-18-flowered: flowers dull white. — *Prenanthes alba*, var. *nana*, Bigel. Fl. Bost. l. c., in part. *Nabalus Boottii*, DC. Prodr. vii. 241; Torr. & Gray, l. c. 482. — Alpine region, mountains of Maine, New Hampshire, Vermont, and N. New York; first coll. by *Boott* and *Bigelow*.

P. aláta. A foot or two high, the larger plants branching: leaves hastate-deltoid, acute or acuminate, sharply and irregularly dentate, abruptly contracted or some of the upper cuneately decurrent into winged petioles, or small uppermost narrower and sessile by a tapering base: heads loosely and somewhat corymbosely paniculate: involucre of 8 to 10 bracts, 7-15-flowered: flowers purplish: akenes slender, 3 or almost 4 lines long, at least sometimes with tapering summit! — *Sonchus hastatus*, Less. in Linn. vi. 99; Bong. Veg. Stch. 146. *Nabalus alatus*, Hook. Fl. i. 294, t. 102; Torr. & Gray, Fl. ii. 483. *Mulgedium hastatum*, DC. Prodr. vii. 250. — Unalaska and other Aleutian Islands to Oregon; first coll. by *Chamisso*, &c. (Adj. Asia.)

Var. sagittáta. Leaves sagittate or hastate, with the basal lobes mostly slender and prolonged: heads in a virgate panicle: involucre narrower, pale green (not livid), very glabrous, subtended by more numerous slender calyculate bracts: immature akenes little over 2 lines long, not tapering at summit. — Rocky Mountains, N. Montana, in *Jocko Cañon*, *Watson*. Upper Flathead, *Canby* & *Sargent*.

229. **LYGODESMIA**, Don. (*Λύγος*, a pliant twig, and *δέσμη*, bundle, from the vineous fasciculate stems of the typical species.) — N. American herbs, mostly smooth and glabrous; with usually rush-like rigid or tough stems, linear or scale-like leaves, and terminal or scattered heads which are always erect; the flowers pink or rose-color, produced in spring or summer. — Don, in *Edinb. Phil. Jour.* vi. 305; DC. *Prodr.* vii. 198; Torr. & Gray, *Fl.* ii. 484; Benth. & Hook. *Gen.* 530; Gray, *Proc. Am. Acad.* ix. 217. Genus somewhat polymorphous.

§ 1. Erect perennials, with striate-angled junciform stems and branches, not spinescent, and terminal solitary heads: akenes slender, terete, almost filiform, slightly tapering to summit, 4-8-nerved or at maturity nerveless: pappus soft and copious, whitish or sordid.

L. júncea, Don, l. c. Fastigiately much branched from the deep-rooted base, about a foot high: leaves persistent, small, somewhat nervose; lower lanceolate-linear from a broadish base, inch or two long; upper reduced to small subulate scales: involucre at most half-inch long, 5-flowered: ligules a quarter or third of an inch long. — Hook. *Fl.* i. 295, t. 103; Torr. & Gray, l. c. *Prenanthes juncea*, Pursh, *Fl.* ii. 498; Nutt. *Gen.* ii. 123. — Plains of the Saskatchewan and Minnesota to the Rocky Mountains, New Mexico, and even in Nevada, *Watson*.

L. grandifóra, Torr. & Gray. Stems separate or few from the root, simple below, a span to a foot high; the larger plants leafy, corymbosely branched above, and bearing few or numerous short-pedunculate heads: leaves all entire, of firm and thickish texture, linear-attenuate, 2 to 4 lines long, only the very uppermost reduced to scales: involucre fully three-fourths inch long, 5-10-flowered: ligules of equal length, showy, rose-red. — *Fl.* ii. 485