

and sharply toothed, acute; the cauline few and sessile; involucre small, slightly bracteolate, smooth and blackish-green, of few scales in about 2 series; pappus gray and scabrous; achenia not attenuate at the summit; flowers white? *Nutt. in trans. Amer. phil. soc. (n. ser.) 7. p. 447.*

St. Barbara, California, *Nuttall.*—This plant is unknown to us; and only a single specimen was collected.

189. NABALUS. *Cass. dict. 34. p. 94 (1825); Hook. fl. Bor.-Am. 1. p. 293.*

Harpalyce, Don (1829), not of DC.—Species of *Prenanthes, Linn.*

Heads several-(5-30-) flowered. Involucre cylindrical, of 5-14 linear scales in a single series, and calyculate with several short accessory scales. Receptacle naked. Branches of the style much exerted. Achenia linear-oblong, cylindraceous, striate or grooved, smooth, not contracted at the apex. Pappus of copious straw-color or brownish scabrous capillary bristles, somewhat fragile.—Perennial (North American) herbs; the erect leafy stem arising from a fusiform simple or branched tuber, which is extremely bitter to the taste. Leaves entire, or variously lobed. Head racemose or paniculate, usually nodding. Flowers whitish, ochroleucous, cream-color, or purplish.

§ 1. *Heads pendulous: involucre calyculate, few-several-flowered, glabrous (rarely more or less hairy). (Leaves very variable in the same species.)*

1. *N. albus (Hook.):* nearly glabrous, slightly glaucous, stem corymbosely paniculate at the summit (usually purplish); leaves angulate-hastate, irregularly toothed, sinuate-incised, or sometimes either palmately or somewhat pinnately 3-5-lobed or parted (the lobes or undivided leaves mostly obtuse, mucronate); the lower petioled; the uppermost usually oblong, subsessile; heads in short spreading racemes or panicles, somewhat corymbose; involucre (glaucous and usually purplish) of about 8 scales, 8-12-flowered; pappus deep cinnamon-color.—*N. albus* & *N. serpentarius, Hook. l. c.* (in part, and as to syn.) *N. suavis, DC. l. c.* *N. trifoliolatus, Cass. in dict. sci. nat. 34. p. 95.* *Prenanthes alba, Linn. hort. Cliff. p. 383, & spec. l. c.* (excl. β .); *Michx. fl. 2. p. 83; Bot. mag. t. 1079; Pursh, l. c.; Bigel. fl. Bost. ed. 2. p. 286 (partly); Darlingt. fl. Cest. p. 444 (partly).* *P. suavis, Salisb. parad. Lond. t. 85.* *P. rubicunda, Willd. spec. 3. p. 1537 (ex herb.), excl. syn. P. Miamiensis? ovata, & proteophylla, Riddell, l. c. Chondrilla alba, Lam.*

β . *Serpentaria:* cauline leaves on slender petioles, deeply sinuate-pinnatifid or 3-parted, the terminal lobe 3-cleft, often sparsely ciliate with rough hairs.—*Prenanthes Serpentina, Pursh, fl. 2. p. 499, t. 24.* *Harpalyce Serpentina, Don, in Edinb. new. phil. journ. 6. p. 305; Beck, l. c.*

Open grounds and borders of woods, Newfoundland! Canada! and Northern States! to the Upper Mississippi! and the Mountains of the Southern States! Aug.-Sept.—A stouter plant than *N. altissimus*; the stem sometimes spotted. Leaves very variable, pale beneath; the margins mostly somewhat scabrous and ciliate. Heads half an inch or more in length. Achenia scarcely striate. Corolla white or ochroleucous, sometimes tinged with purple.—*White Lettuce. Lion's Foot. Rattlesnake-root.*

2. *N. altissimus (Hook.):* glabrous or nearly so; stem virgate; leaves (membranaceous) all petioled, either undivided or the lower palmately 3-5-

cleft, parted, or even divided; the lobes or leaves acuminate, repandly toothed or denticulate; heads in small axillary and terminal clusters, forming an elongated virgate panicle; involucre slender (greenish), of 5 scales, 5-6-flowered; pappus dirty white, or straw color.—*Hook. ! fl. Bor.-Am. 1. p. 294; DC. prodr. 7. p. 241 (ex syn.) (N. albus & N. serpentarius, Hook. l. c., at least in part, fide spec. !)* *Sonchus elatus, &c. Pluk. ! alm. t. 317, f. 2. Prenanthes altissima, Linn.* spec. ed. 2. p. 1121 (ex char. & syn. Pluk.); Pursh, fl. 2. p. 498; Ell. sk. 2. p. 256. P. parviflora, Rid-dell, syn. Western plants, p. 50. Chondrilla altissima, Lam. dict. 2. p. 78. Harpalyce altissima, Beck, bot. p. 167.*

β. ovatus: cauline leaves nearly all ovate, abruptly contracted into winged petioles.

γ. cordatus: leaves mostly cordate, on slender petioles.—*N. cordatus, Hook. l. c. Prenanthes cordata, Willd. ! hort. Berol. t. 25; Pursh, l. c; Ell. l. c.*

δ. deltoideus: leaves deltoid, strongly repand-toothed; the upper often cordate, on margined petioles; the radical and lowest cauline triangular-hastate, sometimes 3-parted.—*N. deltoideus & N. cordatus ! DC. l. c. Prenanthes deltoidea, Ell. ! sk. 2. p. 257.*

ε. dissectus: leaves all 3-parted or divided; the segments either entire or deeply 2-3-cleft; the lobes narrowly lanceolate or linear.

Woods, Newfoundland! Canada! and Northern States! to Kentucky! and the mountains of Georgia! Aug.-Sept.—Stem 3-5 feet high, rather slender, either simple or sparingly paniculate at the summit, sometimes pubescent below, as well as the midrib and margins of the leaves. Corolla yellowish or greenish-white.—A well-marked species, notwithstanding the extremely variable foliage, of which we have enumerated the most striking forms.

3. *N. Fraseri* (DC. ! l. c.): glabrous or slightly puberulent; stem corymbose-paniculate at the summit; leaves mostly deltoid, usually somewhat scabrous, variously and often pinnately 3-7-lobed, and contracted into winged or margined petioles (the lobes short and mostly sinuate-denticulate); the upper subsessile, oblong-lanceolate, often undivided; racemes paniculate; involucre (greenish or slightly tinged with purple,) either glabrous or with a few scattered hairs, of about 8 scales, 8-12-flowered; pappus straw-color.—*N. trilobatus, Cass. in dict. sci. nat. l. c. ? N. Fraseri, N. trilobatus & N. serpentarius β. ? DC. ! l. c. Prenanthes folio scabro inciso . . . floribus dilute luteis, &c., Clayt. ! in Gronov. fl. Virg. 3. p. 133. P. rubicunda, Pursh, fl. 2. p. 499, excl. syn. P. alba, Ell. sk. 2. p. 259.*

β. integrifolius: leaves thickish, lanceolate-oblong, acute or obtuse, denticulate, or sharply and irregularly toothed; involucre often somewhat hairy.—*N. integrifolius, Cass. l. c.; DC. ! l. c.*

γ. barbatus: leaves thickish, lanceolate or oblong, mostly sessile; the upper often somewhat auriculate-clasping, sinuate-toothed or nearly entire; racemes paniculate; involucre (12-15-flowered) hirsute when young with long purplish hairs!—*Prenanthes crepidinea, Ell. sk. 2. p. 259, not of Michx.*

Dry sterile or sandy soil, from Florida! and Alabama! to New York! Connecticut! and Newfoundland? *β.* Long Island, New York! and North Carolina! *γ.* Saluda Mountains of Carolina, *Dr. Macbride.* Alabama, *Mr. Buckley!* Sept.-Oct.—Stem 1-4 feet high, usually much branched: the leaves exceedingly variable. Flowers cream-color or ochroleucous.—This species, most abundant in the Southern States (where it is

* The specimens of *Prenanthes altissima* and *P. alba* are evidently transposed in the Linnæan herbarium!

called *Gall-of-the-Earth*), resembles *N. albus* in its mode of growth, number of flowers, &c., but *N. altissimus* in its pappus. The very remarkable var. γ . but appears to pass through var. β . into the ordinary state of the plant.

4. *N. nanus* (DC.): glabrous; stem simple, low; leaves deltoid-hastate, angulate, or variously lobed or cleft, on slender petioles; heads in small axillary and terminal clusters, forming a strict racemose panicle; involucre (livid or blackish-green) 10–13-flowered, of about 8 obtusish proper scales; the bracteolate scales very short, triangular-ovate, appressed; bracts and bracteoles minute and subulate; pappus dark straw-color.—DC. *! prodr.* 7. p. 241. *Prenanthes alba*, var. *nana*, *Bigel. ! fl. Bost. ed. 2. p. 286*; *Torr. ! compend. p. 277* (partly). *Harpalyce alba* β . *Beck. bot. p. 167*.

Alpine region of the White Mountains of New Hampshire! and of Essex County, New York! Aug.—Sept.—Plant 5–10 inches high. Leaves varying in the same manner as those of *N. altissimus*, either all undivided and hastate-triangular, angulate-toothed, or hastate-3-lobed; or else the lower or the whole 3-parted, with the divisions 2–3-cleft or entire, oblong or lanceolate, often somewhat ciliate when young, as well as the tips of the involucre. Heads nearly as large as in *N. albus*. Flowers whitish.

5. *N. Boottii* (DC.): stem simple, dwarf, pubescent at the summit when young; radical and lowest cauline leaves subcordate or hastate-cordate, obtuse; the middle oblong; the upper lanceolate, mostly entire, tapering into a margined petiole; heads in a simple or nearly simple raceme, slightly nodding; bracts and bracteoles linear; involucre (livid) 10–18-flowered, of 10–15 obtuse proper scales; the calyculate scales linear, lax, unequal, nearly half the length of the proper involucre; pappus straw-color.—DC. *! prodr.* 7. p. 241. *Prenanthes alba*, var. *nana*, in part, *Bigel. ! l. c. &c.*

Higher alpine summits of the White Mountains of New Hampshire! On the extreme summit of Whiteface Mountain, Essex County, New York, *Mr. Macrae!* Aug.—Sept.—Plant 5–8 inches high. Scales of the involucre very obtuse, pubescent-ciliate when young; the calyculate scales nearly similar, but shorter and unequal. Flowers whitish.—Nearly allied as is this species to the preceding, yet the characters we have indicated appear to be constant. According to Mr. Tuckerman, the flowers are odorous in this species, but not in *N. nanus*.

6. *N. virgatus* (DC.): glabrous, somewhat glaucous; stem virgate, very simple; cauline leaves lanceolate, acute, closely sessile or partly clasping; the upper entire and gradually reduced to bracts; the lower toothed or pinnatifid; the radical tapering into a margined petiole, sinuately or runcinately and often deeply pinnatifid; the lobes lanceolate-linear or oblong; heads in small clusters, on short many-bracteolate peduncles (the minute bracteoles subulate), forming a very long and slender mostly unilateral spicate raceme; involucre (smooth and purplish) of about 8 proper scales, 8–12-flowered; pappus straw-color.—DC. *! l. c.*—*Prenanthes virgata*, *Michx. ! fl. 2. p. 83*; *Willd. ! spec. 3. p. 1533*; *Pursh, fl. 2. p. 498*; *Ell. sk. 2. p. 258*. *P. simplex*, *Pursh, l. c. excl. syn.* *P. autumnalis*, &c. *Gronov. ! fl. Virg. ed. 2. p. 113*; *Walt. ! Car. p. 193*. *Conchus virgatus*, *Desf., ex Steud.* *Harpalyce virgata*, *Beck. bot. p. 167*.

Moist places, in sandy fields and pine barrens, New Jersey! to Florida! in the low country. Sept.—Oct.—Stem 2–4 feet high; the naked wand-like raceme 1–2 feet long. Flowers purplish. ('*Dr. Witt's Snake-root.*' Clayt.)

§ 2. *Heads nodding or erect: involucre calyculate, 12–35-flowered, hirsute. (Leaves mostly undivided.)*

7. *N. racemosus* (Hook.): stem virgate, simple, and with the leaves smooth and glabrous; radical and lower cauline leaves oval, oblong, or oblanceolate,