

# REASSESSMENT OF THE ATLANTIC COASTAL PLAIN VARIANT OF *NABALUS ALBUS* (ASTERACEAE)

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## ABSTRACT

We applied morphological characters to assess the taxonomic status of the Atlantic Coastal Plain entity within *Nabalus albus* (L.) Hook. Because *Prenanthes alba* L. ssp. *pallida* Milstead was not validly published, we provided a replacement name: ***Nabalus albus*** (L.) Hook. var. ***stramineus*** Sorrie & LeBlond.

## RESUMEN

Aplicamos caracteres morfológicos para evaluar la situación taxonómica de la entidad de la llanura costera atlántica dentro de *Nabalus albus* (L.) Hook. Dado que *Prenanthes alba* L. ssp. *pallida* Milstead no se publicó válidamente, proporcionamos un nombre de sustitución: ***Nabalus albus*** (L.) Hook. var. ***stramineus*** Sorrie & LeBlond.

The taxonomic status of the Atlantic Coastal Plain variant of *Nabalus albus* (L.) Hook. has not received attention since it was named by Milstead (1964) in his doctoral thesis as *Prenanthes alba* L. ssp. *pallida* Milstead. Milstead's combination was not validly published, as it lacked a Latin diagnosis and was not published in a widely available journal. Here we provide a new combination in the currently recognized genus *Nabalus*, as *Nabalus albus* (L.) Hook. var. *stramineus* Sorrie & LeBlond.

One taxonomic issue that must be resolved here is the relationship between *N. albus* var. *stramineus* and *N. trifoliolatus* Cassini. On the Atlantic Coastal Plain the two taxa overlap in distribution and habitats, and the shared characters of pappus color and lower leaf shape (palmately and deeply 3–5-lobed) have led a few authors (e.g., Bogler 2006; Weakley et al. 2024) to subsume Milstead's subspecies into *N. trifoliolatus*. Table 1 and the discussion following the table highlight a number of points of difference.

We assessed a number of morphological characters of *N. albus* var. *albus*, *N. albus* var. *stramineus*, and *N. trifoliolatus*, based on examination of specimens from North Carolina and Virginia at herbarium NCU. Those characters that were deemed to be most informative are presented in Table 1. For each character state, we made one measurement from each plant. For each taxon, we sampled between 16 and 21 plants, except for achenes of *N. albus*—only eight specimens had mature achenes. Specimens viewed online at other herbaria were not used in the morphological evaluation.

Notable differences occur between *N. albus* var. *albus* and var. *stramineus* in involucre length, achene length, pappus color, and distribution (Table 1). Three of these characters show limited overlap, but pappus color is wholly distinct. Other characters in Table 1—number of phyllaries, phyllary color, number of florets, and corolla color—show complete overlap. The pale color of the pappus in var. *stramineus* has been by some authors attributed to fading on herbarium specimens that they identified as var. *albus* (Johnson 1980; Bogler 2006), but Milstead's monograph of the genus (1964) makes no mention of such fading. Our examination of in-hand and online specimens yielded only one that exhibited an intermediate pappus color: Virginia, Richmond County, R.A.S. Wright 1038 (VCU). We described its color as pale cinnamon to orange-tan; we are uncertain as to its identification, although its location on the coastal plain suggests var. *stramineus*. The

TABLE 1. Comparison of character states of *Nabalis albus* var. *albus*, *N. a.* var. *stramineus*, and *N. trifoliolatus*. Measurements are in millimeters, from in-hand specimens.

Character	<i>Nabalis albus</i> var. <i>albus</i>	<i>Nabalis albus</i> var. <i>stramineus</i>	<i>Nabalis trifoliolatus</i>
Involucre length	Range: 13–15 Mean: 14.1 n = 21	Range: 11–13 Mean: 11.9 n = 21	Range: 11.5–14 Mean: 12.8 n = 19
Number of phyllaries	Range: 8–9 Mean: 8.2 n = 16	Range: 8–8 Mean: 8.0 n = 19	Range: 8–8 Mean: 8.0 n = 16
Phyllary color on fresh plant	pale pink to red-purple (not violet); sometimes lead-colored	pale pink to red-purple (not violet); sometimes lead-colored	pale yellow-green to dark green
Number of florets	range 9–11 mean 10.5 n = 16	range 9–12 mean 10.6 n = 18	Range: 8–10 Mean: 9.4 n = 16
Achene (nutlet) length	Range: 4.5–6 Mean: 5.0 n = 8	Range: 4–5 Mean: 4.2 n = 16	range 4.5–5.5 mean 5.2 n = 16
Pappus color	rich cinnamon*	pale tan to straw	pale tan to straw
Corolla color	white to pink-tinged	white to pink-tinged	ochroleucus to pale yellow
Number of vascular bundles in ovary (Milstead 1964)	Range: 12–15 Mean: 13.7	No data	Range 19–21 Mean 20.0
Ploidy level (Milstead 1964)	No data	Tetraploid	Diploid
Distribution	upper piedmont and mountains of NC, VA, and northwards	outer coastal plain of NC; cp and lower pd of VA, eastern MD? southern NJ	mountains to coastal plain of GA, TN north to Lab, Ont. Rare in cp of NC, VA

\*Note: one specimen of *N. albus* from District of Columbia (*Blanchard s n. NCU*) had pappus of an intermediate color; its data are not included in this table. Bogler (2006) states that “Because pappus color tends to fade somewhat on herbarium specimens, that color is difficult to assess on older specimens.” However, at NCU we detected only the one specimen that exhibited intermediate (faded?) pappus color.

character differences seen in involucre length, achene length, pappus color, and geographical distribution suggest that var. *albus* and var. *stramineus* should be recognized as distinct at the varietal level.

In Table 1 notable differences occur between *N. albus* var. *stramineus* and *N. trifoliolatus* in involucre length, phyllary color, number of florets, corolla color, achene length, and distribution. In addition, Milstead (1964, his Table 2) documented significant differences in the number of vascular bundles in ovaries: 12–15 (average 13.7) in *P. alba* and 19–21 (average 20.0) in *P. trifoliolata*. Finally, Milstead (1964) stated that his ssp. *pallida* is tetraploid, whereas *P. trifoliolata* is diploid. Considered together, these eight characters strongly suggest that *N. trifoliolatus* and *N. albus* var. *stramineus* are not conspecific.

The taxonomic category of variety is the first level of infraspecific designation in the International Code (Turland et al. 2018); subspecies is an optional category. *Nabalis albus* var. *stramineus* replaces Milstead’s invalid *Prenanthes alba* ssp. *pallida*. The new combination is provided below.

***Nabalis albus* (L.) Hook. var *stramineus* Sorrie & Le Blond, var. n. nov. (Figs. 1–5).** TYPE: U.S.A. NORTH CAROLINA. Martin Co.: sandy woods Conoho Creek, 4.5 mi NW of Williamstown, 30 Sep 1966, *Radford and Bozeman 45293* (HOLOTYPE: NCU!; ISOTYPES: BRIT-VDB!, COLO!, FSU!, GAI, KANU!, USF!).

*Prenanthes alba* ssp. *pallida* Milstead ined. Milstead, W.L. 1964. A revision of the North American species of *Prenanthes*. Ph.D. thesis, Purdue Univ. TYPE: U.S.A. North Carolina, Onslow Co.: wooded slope in vicinity of Southwest Creek, NE of Haw, 4 Oct 1957, *Ahles 36100* (HOLOTYPE: NCU!).

**Diagnosis.**—*Nabalis albus* var. *stramineus* is very similar to the nominate variety of *Nabalis albus*, but differs in shorter involucre, shorter achenes, pappus color, and distribution. See Table 1 for character states. With the nominate variety, it shares similar or identical values for number of phyllaries, phyllary color, number of florets, and corolla color.

The distribution of *Nabalis albus* var. *stramineus* is mostly within the Atlantic Coastal Plain (Fig. 2). In New Jersey it occurs in the southern third of the state, where it overlaps with *N. albus* var. *albus* (Stone 1911; specimens annotated by Milstead at SERNEC 2024). In Maryland BONAP maps a specimen, presumably of *N.*



Fig. 1. Holotype of *Nabalus albus* var. *stramineus*, at NCU.

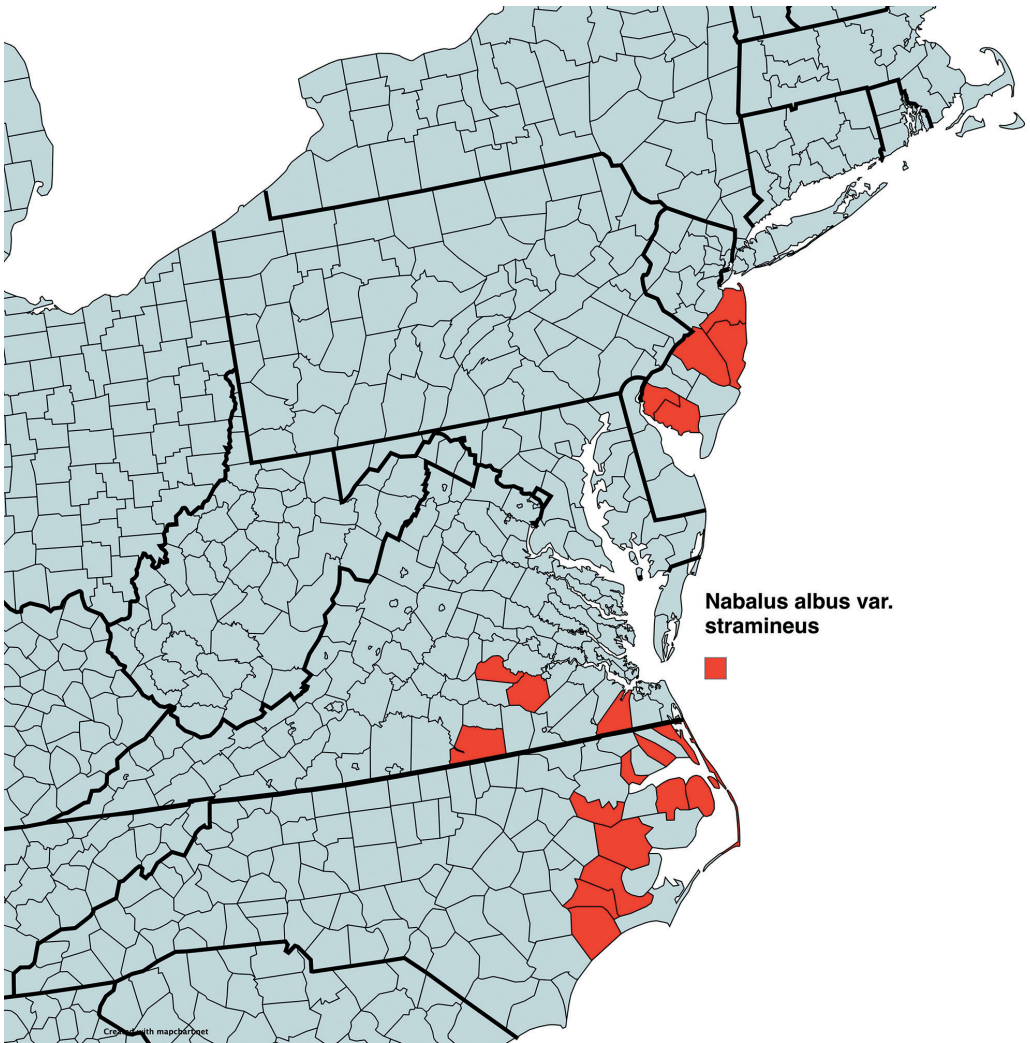


FIG. 2. County distribution of *Nabalus albus* var. *stramineus*.

*albus*, in Worcester County on the outer coastal plain, shortly disjunct from the records of var. *albus* in the piedmont and mountains of Maryland. By location this specimen is likely to be var. *stramineus*, but needs to be verified. In Virginia it occurs in the coastal plain and lower piedmont, shortly disjunct from var. *albus* in the mid piedmont and mountains of Virginia (Johnson 1980; SERNEC 2024). In North Carolina it occurs in the outer coastal plain, disjunct from var. *albus* in the mountains (Radford et al. 1968; SERNEC 2024).

Additional specimens of *Nabalus albus* var. *stramineus* examined. \* = specimen cited by Milstead (1964), but not seen by us.

**U.S.A. NEW JERSEY.** **Burlington Co.:** Mannington, cited by Stone (1911). **Cumberland Co.:** Vineland, 10 Oct 1878, *Scarborough s.n.* (PH); Fairton-Sea Breeze Road, 26 Sep 1972, *Laport s.n.* (CHRB). **Gloucester Co.:** banks of Timber Creek near Gloucester, 11 Sep 1870, *Parker s.n.* (CHRB). **Monmouth Co.:** Bradley Beach, 22 Aug 1917, *Lighthipe* (\* TEX). **Ocean Co.:** Bay Head, 14 Sep 1914, *Lighthipe* (\* TEX). **NORTH CAROLINA.** **Beaufort Co.:** mixed deciduous forest 4.5 mi N of Cox's Crossroads, 12 Oct 1958, *Radford 42144* (NCU). **Chowan Co.:** 3 mi ENE of St. Johns on Indian Trail Road, pocosin, 14 Oct 1958, *Ahles and Duke 51071* (NCU); 0.5 to 0.75 mi E of St. Johns church, roadside, partially disturbed area in shade of mixed deciduous woods, 17 Aug 1963, *Milstead 2381* (MSUB). **Craven Co.:** Neusiok Trail, Oct 2024, photos by Eric Ungberg. **Currituck Co.:** burned-over loblolly pine flatwood, 2.3 mi W of Barco, 5 Oct 1950, *Godfrey and Fox 51000* (WS).





FIGS. 3–5. Images of *Nabalus albus* var. *stramineus*, showing corolla color, involucre color, pappus color, and group of flowering stems. Dare Co. North Carolina, Oct 2024, Larry Chen.

**Dare Co.:** Lake Neighborhood Road, Stumpy Point P.O., 14 Oct 2024, photos by Larry Chen. **Jones Co.:** Croatan National Forest, Compartment 40, near stream, 13 Nov 1990, *LeBlond 1796* (pers. herb.). **Martin Co.:** county road 1417, 1.0 mile off NC route 125, border of mixed deciduous forest slope along Conoho Creek, 25 Sep 1967, *Bozeman and Radford 11525* (NCU, DSC, GA, GAS, IND); Conoho Creek, NC route 125, 4.5 mi NW of Williamstown, mesic beech woods and ditches, 27 Sep 1974, *Williams 1040* (NCU); edge of gum swamp on U.S. 64, 9 mi W of Plymouth, 6 Oct 1949, *Radford 5063* (NCU); oak-hickory forest near U.S. 64, 4.5 mi W of Jamesville, 11 Oct 1958, *Radford 41888* (NCU); mixed deciduous forest near Conoho Creek, 4.4 mi SE of Hamilton, 11 Oct 1958, *Radford 41762* (NCU); Roanoke River, steep bluffs of county road 1416, 3 mi ESE of Hamilton, “Old Fort” location, beech-mixed hardwoods community, 19 Sep 1974, *Treiber 617* (NCU). **Onslow Co.:** wooded slope in vicinity of Southwest Creek, NE of Haw, 4 Oct 1957, *Ahles 36100* (NCU). **Pasquotank Co.:** flat pine-oak woods border, 8.1 mi SE of Pasquotank-Camden line on U.S. 17-158, 15 Oct 1958, *Ahles and Duke 51298* (NCU). **Tyrrell Co.:** mixed deciduous forest 0.6 mi E of River Neck, 18 Oct 1958, *Radford 42478* (NCU, USF); dried up ditch along U.S. 64, 2.6 mi W of Scuppernon River at Columbia, 10 Oct 1968, *Leonard 2104* (NCU). **VIRGINIA. City of Chesapeake:** Elaine Ave. off Johnson Road, partial shade, edge of wooded area, flowers pinkish white, 7 Oct 1989, *Bray s.n.* (NCU). **Dinwiddie Co.:** roadside 1 mi N of Chevy Hill, 5 Sep 1968, *Harvill 20294* (FARM). **Mecklenburg Co.:** roadside of VA 712, left of overpass at I-85, no date, *Seaman s.n.* (NCU).

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