Centaura x moncktonii C. E Britton,
Meadow or Protean Knapweed in the Niagara Frontier Region
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Centaura x moncktonii C. E. Britton.
Synonymy: Centaura debeauxii Godron & Grenier subsp. thuillieri Dostal; C. jacea L. var. pratensis W.D.J.Koch; C. jacea subsp. x pratensis (W.D.J.Koch) Celakovsky; C. nigra L. var. radiata de Candolle; C. thuillieri (Dostal) J. Duvigneaud & Lambion

If you use an old edition of the flora of the Eastern United States, such as Gleason’s 1952 Britton and Brown Illustrated Flora of the Northeastern US, as I do (for the illustrations), you might miss out on the identity of what may be a common weed. The key in my copy of Gleason, as it has for years, would often get me to Centaura jacea, C. dubia or C. nigra and the nice pictures would be sort of helpful and I would end up picking one of these three species to arrive at a name.

The trouble is, Zenkert (1934) curiously indicated that those three species that were established at that time were all rare, although Centaura jacea was “Rather rare but spreading.” Centaura nigra was considered to be a variety of that species and one collection was noted at the Buffalo airport. Centaura dubia is now called C. nigrescens Willd. and Zenkert had not collected it in the Niagara Frontier.

Clearly, since 1934 the flora is quite different and Centaura populations, the Knapweeds, have exploded - but what species? Our familiar garden Bachelor’s Buttons belong to this genus (C. cyanus L.).

During the autumn, Knapweeds are conspicuous along the dry crest of the gorge of the Niagara River. I have regularly been calling the most common one Centaura jacea, but the specimens never seemed to match all the details of the descriptions of that species - and there were characters that matched C. dubia (nigrescens) and C. nigra, except that the “conspicuous” black areas on the involucral bracts were not evident. The ones in my species were always brown (hence C. jacea). It couldn’t be Centaura nigra, because that species lacks conspicuous marginal ray flowers, which were always present in the specimens.

After some consultation with the literature and identified specimens, I have decided that my specimens were a hybrid between Centaura jacea and C. nigra! This hybrid is called the Meadow Knapweed and its scientific name is C. x moncktonii C. E. Britton. It is said to prefer moist stations but at Niagara it seems to flourish along the dry, dolomite gorge crest (which is not without its seeps, however).

This hybrid is considered to be native to Europe, which is logical as its two putative parents are native to Europe. As a matter of fact, all species in our flora are native to Europe or Asia except Centaura americana which comes up into the southern United States from Mexico.

To identify this hybrid using the old keys, one needs to understand the bracts surrounding the involucre just below the flowers (corolla) perched on top of the receptable of the Composite flower-head. The involucre is the complex structure just under the flowers and made up of bracts of various sorts. When bracts occur in the Compositae (Asteraceae), they can be specifically called phyllaries. In the genus Centaura, these bracts are arranged in several rows, or series, below the conspicuous corolla. The shape of the bracts in each series (outer, middle and innermost series or rows) are somewhat different.
In every species in the genus *Centaurea* these individual bracts are differentiated into a lower part with even margins, and a distinct upper part which is like a crown, ornamented with a papery (scarious) texture and even edges, or most often with a fringe of torn (lacerate) or comb-like (pectinate) processes or appendages radiating out from a central area which is often of a different, darker color - black or brown or tan.

In the most recent treatment of the genus *Centaurea* for North America by Keil and Ochsmann (2006), the phyllary appendages of *Centaurea jacea* L. are described as “scarious, light to dark brown, more or less undivided to irregularly lacerate.

Those of *Centaurea nigra*, *C. nigrescens* (=*C. dubia*) and *C. x moncktonii* are “brown to black, more or less wholly pectinately fimbriate.” In this group, only *C. x moncktonii* have the fimbriate appendages light to dark brown, as in *C. jacea*. The appendages of the other two are black.
In the illustration drawn to accompany the present article, a flowering head of *Centaurea x moncktonii* is drawn from a specimen from Niagara Falls. The phyllaries, or involucral bracts, are drawn below the flowers that radiate out around the periphery of the flower-head. Here may be seen two types of variation in the phyllaries, strongly pectinate-fimbriate in the lower or first series, with intermediates in the middle series and the series just below the corollae are merely lacerate, as in *C. jacea*. Note also that although the upper leaves are entire, at least the leaves at the base may be strongly lobed.

This hybrid is a member of a complex of “mutually interfertile intermediates derived by hybridization and backcrossing among the various cytotypes of the *Centaurea jacea* complex. The plants variously combine features of *C. jacea* and *C. nigra*, and perhaps *C. nigrescens* as well.” (Keil and Ochsmann 2006).

The hybrid occurs in various counties in New York State but has not been reported for the eight western counties (NYFA). Oldham (2010) reported it for the Regional Municipality of Niagara, Ontario, as a “rare weed. B. Miller #405 (HAM) from Ridgemount in 1948,” otherwise the plant appears to be new to the Niagara Frontier Flora.

It would be interesting to see whether the species occurs all along the crest of the Niagara River gorge on the Ontario side of the river. The plants are known as “noxious weeds in British Columbia, Idaho, Oregon, and Washington” (Keil & Ochsmann 2006) and the active government websites from those states have extensive information on line. So far, only *Centaurea stoebe* ssp. *micranthos*, the Spotted Knapweed (= *C. maculosa* Lam. of Zenkert, 1934), is considered invasive in New York State according to the Department of Environmental Conservations website for 2012.

**Specimens observed:**


Note that the repository for these specimens is provisionally at the Missouri Botanical Garden, Saint Louis, MO but in the private collections of the author. Ordinarily specimens would be deposited at BUF, but the collections policy at that institution and ability to conduct research at the herbarium is in transition.

**Publications cited:**


