FIRST REPORT OF RUMEX CRISTATUS (POLYGONACEAE) FOR NEW YORK STATE

DANIEL ATHA
Center for Conservation Strategy
New York Botanical Garden
Bronx, New York 10458
datha@nybg.org

ABSTRACT

*Rumex cristatus* is documented from New York for the first time. The species is known from Bronx and New York counties in New York and from Union Co., New Jersey.

In recent years, there has been an increase in populations and abundance of a distinctive *Rumex* species in New York City that did not easily fit any species described for the state. The plants were tentatively identified as *R. patientia* L. (Atha et al. 2016). Photographs taken in the Bronx in June 2018 and uploaded to the biodiversity program, iNaturalist were identified by Walter Plieninger (in Germany) as *R. cristatus* DC. Herbarium specimens were prepared and plants photographed in several locations.

*Rumex cristatus* (Greek dock) is a robust perennial native to southeastern Europe (Balkan Peninsula, the Aegean region, Cyprus, and Sicily) and naturalized in southern Europe and the USA (Mosyakin 2005; Akeroyd & Webb 1991; Akeroyd 2014). It is reported from Illinois, Kansas, and Missouri in the USA (Mosyakin 2005; USDA, NRCS 2018) but not previously reported for New York (Werier 2017).


**Key to weedy, introduced *Rumex* of New York City**

1. Plants dioecious; whole plant (including inflorescence) < 40 cm tall; basal leaves 2–6 × 0.5–3 cm, usually 3-lobed (hastate) .......................................................................................... *Rumex acetosella*
2. Basal leaves oblong or ovate, distinctly rugose, leaves usually with red spots or blotches of red color, especially along the midrib and petiole bases; mature tepal margins with narrow, elongate teeth
   ................................................................................................................................... *Rumex obtusifolius*
3. Basal leaves oblong, the margins strongly crisped; mature tepals 3–4 mm wide, the margins entire; tubercules usually 3 .................................................................................... *Rumex crispus*
4. Mature tepals orbicular, wider than long, the apices rounded to obtuse, the margins entire to erose; tubercules usually 1 ............................................................................................ *Rumex patientia*

4. Mature tepals ovate, longer than wide, the apices obtuse to acute, the margins toothed, at least some of the teeth 0.5–1 mm long; tubercules usually 3 (unequal), rarely 1 or 2
   ............................................................................................................................. *Rumex cristatus*
Figure 1. *Rumex cristatus* on Randall's Island, New York County. A. Habit. B. Lower leaves. C. Ripening fruit, showing enlarged inner tepals with distinct teeth. D. Tubercules on three tepals. Photos from iNaturalist (https://www.inaturalist.org/observations/13126264), D. Atha, 8 June 2018.
Rumex cristatus are robust and gregarious plants (Fig. 1) with the largest mature tepals of any Rumex species reported for North America (Mosyakin 2005). In contrast to R. patientia, which has smaller, roughly orbicular tepals with rounded apices, the tepals of R. cristatus are ovate with obtuse to acute apices. The tepal margins are distinctly toothed, particularly at the base, in contrast to the entire to erose margins of R. patientia. The teeth are roughly triangular, but variable in length, ranging from about 0.2 mm to almost 1 mm long.

Rumex kerneri Borbás is very similar to R. cristatus but the inner tepals have one tubercule (vs 1–3), marginal teeth on the inner tepals shorter than 0.5 mm and papillose abaxial leaf veins (Mosyakin 2005, Plieninger pers. comm). Papillose abaxial veins have not been observed in New York City plants. Robust plants with large leaves having weakly crisped margins and small inner tepals without teeth are present in the City (Atha 16009, Rubin 161). These plants are probably R. × confusus Simonk., the hybrid between R. patientia and R. crispus (Werier 2017).

The oldest specimen of Rumex cristatus from the region found at NY and BKL was collected by Michael Nee in Bronx County in 2005. The species probably is now more widespread than the herbarium specimens cited here indicate.

The discovery of a new xenophyte for the region from a photograph identified on iNaturalist demonstrates the value of the iNaturalist program for the identification and discovery of biological novelties, particularly in large, cosmopolitan genera without active specialists making general identifications on a wide-scale.

ACKNOWLEDGEMENTS

I am grateful to Meryl Rubin for databasing, labeling, and distributing the specimens and to Walter Plieninger for first identifying Rumex cristatus in New York and for his helpful comments on Rumex in general. I thank Chris Girgenti, Natural Areas Manager of the Randall’s Island Park Alliance and Susan Hewitt for assistance in the field. Appreciation is extended to the New York City Department of Parks and Recreation for their ongoing collaboration on the flora of New York City.

LITERATURE CITED