

## FIRST REPORT OF *MUMMENHOFFIA ALLIACEA* (BRASSICACEAE) FOR NEW YORK

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### ABSTRACT

*Mummenhoffia alliacea* is naturalized in New York. The first documented occurrences are reported from Dutchess, Kings, New York (Manhattan), Onondaga, Queens, and Suffolk counties. Verification is provided by herbarium specimens at NY and photographs uploaded to iNaturalist and cited at the Global Biodiversity Information Facility.

Spontaneous occurrences of *Mummenhoffia alliacea* (L.) Esmailbegi & Al-Shehbaz (Garlic Pennycress) were found in 2017, 2018, 2019, 2020 and 2021 during routine observation of the flora of New York State. Observations were uploaded to iNaturalist and identifications confirmed by the third author (JG). These are the first reports of this species (and genus) growing spontaneously in New York state (Al-Shehbaz 2009; Werier 2017; USDA, NRCS 2021).

*Mummenhoffia alliacea* was transferred from *Thlaspi* to the recently named genus *Mummenhoffia* Esmailbegi & Al-Shehbaz (Esmailbegi et al. 2018). The species is native to central and southern Europe and was first reported as introduced to North America in Pennsylvania in 1947 (Cusick 2015). Plants are annual and in North America are typically found in disturbed areas such as agricultural fields, gardens and highway edges.

**Vouchers. New York. Queens Co.:** New York City, I-495 and Cross Island Parkway, east-bound, raised median, 21 Apr 2021, *Atha 16190* (NY, to be distributed to BH, F, MO, MU, TEX, US). **New York Co.:** New York City, Riverside Park South between 65th and 66th Sts, ca 500 m E of the Hudson River, 26 Apr 2021, *Atha 16195* (NY, to be distributed to BH, F, MO, MU, TEX, US).

Additional populations in New York State are documented in iNaturalist as follows (iNaturalist observation numbers). **Dutchess Co.:** 65451510. **Kings Co.:** 74673073. **New York Co.:** 73145620, 73145621, 73145622, 73145624, 73145626, 73145627, 73145628, 73145630, 73145633, 73235274,

73235294, 73235303, 73235321, 73235344, 73235381, 73354025, 73354891, 73355589, 73358048, 73734913, 73986078, 73986091, 73986137, 73986167, 73986191, 73986211, 73986258, 74013946, 74014591. Onondaga Co.: 22711360, 22816069. Queens Co.: 11278343, 21744939, 23772101, 24973369, 74730008, 74730009. Suffolk Co.: 73045649. Voucher specimens and iNaturalist observations indexed by the Global Biodiversity Information Facility (GBIF 2021).



Figure 1. *Mummenhoffia alliacea*. A. Whole plant (Queens Co., *Atha* 16190, NY and iNaturalist observation 74730008), ruler is 30 cm long. B. Cauline leaves with claspings, auriculate bases (46771830). C. Glaucous stem with spreading hairs at the base (74014591). D. Fruits (73145633), smallest increments are millimeters. E. Population (74730009).

Vegetatively and in flower (before fruiting) *Mummenhoffia alliacea* is similar in appearance to *Capsella bursa-pastoris*, *Lepidium campestre*, *Lepidium virginicum*, *Microthlaspi perfoliatum*, and especially *Thlaspi arvense*. Distinguishing these species when mature is easier: *Capsella bursa-pastoris* and *Microthlaspi perfoliatum* have fruit that are notched at the tip (vs. blunt in *Mummenhoffia alliacea*), and the *Lepidium* species mentioned here have flattened fruit (vs somewhat inflated). Finally, *Mummenhoffia alliacea* can be distinguished from *Thlaspi arvense* by the following key.

#### Key to distinguish *Mummenhoffia alliacea* from *Thlaspi arvense*

1. Bruised plant with garlic-like odor; stems terete, glaucous, pubescent basally with spreading hairs; upper stem leaves clasping with auricles wrapping around the stem; fruit scarcely winged, the wings < 1mm wide; seeds alveolar..... **Mummenhoffia alliacea**
1. Bruised plant without garlic odor; stems ribbed and sometimes winged, green, glabrous basally; upper stem leaves clasping but auricles not wrapping around the stem; fruits broadly winged, the wings 3.5–5.0 mm wide; seeds concentrically striate..... **Thlaspi arvense**

Al-Shehbaz (2009), in his treatment of the Brassicaceae for the Flora of North America, reported this species (as *Thlaspi alliaceum*) from Delaware, Indiana, Kentucky, Louisiana, Maryland, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia. The USDA Plants Database also reports the species from Georgia, Missouri, and New Jersey (USDA-NCRS 2021). Verified observations in iNaturalist are reported from Massachusetts (iNaturalist observation number 41052744).

The species was first reported for New Jersey in 2006 (Lamont & Young 2006) and will undoubtedly be found in many more New York counties as it moves north and east. The small seeds are probably most often distributed by air currents and machinery along transportation corridors such as roads and railroads (Thompson et al. 2013). The Queens County population in Alley Pond Park at Restoration Pond, along the Cross Island Parkway, tripled in size from 2019 to 2021.

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