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FIRST REPORT OF *CROTON GLANDULOSUS* (EUPHORBIACEAE) FOR NEW YORK

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ABSTRACT

Croton glandulosus is naturalized in New York. Populations are documented from Queens and New York (Manhattan) counties, the first occurrences of the species and the first species of *Croton* to become established in the state. Documentation is provided by herbarium specimens at NY and photographs uploaded to iNaturalist.

Plants of *Croton glandulosus* L. were found by chance in late 2019 and 2020 during routine observation of the flora and fauna of New York City. Observations were uploaded to iNaturalist and identification of these observations was confirmed by the Euphorbiaceae specialist Nathan Taylor. This is the first report of this species growing spontaneously in New York State (van Ee & Berry 2016; Werier 2017; USDA, NRCS 2020) and the first *Croton* to become naturalized in the state (see Werier 2017 reference to *Croton capitatus* on Staten Island).

The genus *Croton* is one of the largest genera of the Euphorbiaceae with 1250 species worldwide and 31 in North America north of Mexico (van Ee & Berry 2016). Five varieties of *Croton glandulosus* are known from North America north of Mexico. The New York plants have leaf blades 3–7 cm long, sparsely pubescent with pointed marginal teeth (Fig. 1) and key to *Croton glandulosus* var. *septentrionalis* Müller Arg.

Voucher. **New York.** Queens Co.: New York City, Edgemere, S sidewalk of Rockaway Beach Blvd near the intersection of Rockaway Beach Blvd and Beach 41st Street, 29 Sep 2019, *Wang 98* (NY).

The Manhattan (New York Co.) population (Fig. 2) consisted of about a dozen plants growing at the edge of a basketball court and a concrete retaining wall (iNaturalist observations 59354391, 59354419, 59354600, 59501674, 59501722, 59501761, 59501818, 59501849, 59501906, 59501974, 59502036, 59502101, 59502247, 59502278, 59539968, 59784426, 59790865).

The Queens population (Fig. 3) consisted of a several plants growing in a sidewalk crack between the road and sidewalk (iNaturalist observation 33627601). Associated species include *Setaria pumila*, *Mirabilis nyctaginea*, *Ambrosia artemisiifolia*, *Medicago sativa*, and *Artemisia vulgaris*.

The two New York City populations are separated by 25 km of the densest urbanized area in North America and it seems improbable that these are the only two populations that occur (despite the intensive biodiversity monitoring by the naturalist community in New York City and shared observations and identifications through iNaturalist). We therefore suggest that the plants meet the

criteria for "established" rather than merely "adventive" as described by Nesom (2000). There are several scattered populations documented in adjacent New Jersey. The nearest, near Keansburg, Monmouth County (iNaturalist observations 17255555 and 7636202) is a mere 33 kilometers across Sandy Hook Bay from the Queens population.

Hurricane Sandy, which made landfall near Atlantic City, New Jersey, in 2012 and moved north across Sandy Hook and Lower New York Bays into New York City, could have carried seeds into New York. Destruction from the hurricane and subsequent demolition created additional areas suitable for growth of the species such as sand dunes, old fields, roadsides, and waste places. Such habitat is extensive on the Rockaway Peninsula of Queens where additional populations are likely to be found.

Figure 1. *Croton glandulosus* var. *septentrionalis*. New York Co., New York, 16 Sep 2020. Photo 59790865, Daniel Atha. < https://www.inaturalist.org/observations/59790865>

Figure 2. *Croton glandulosus* var. *septentrionalis*. New York Co., New York, 16 Sep 2020. Photo 95559884, Daniel Atha. <https://www.inaturalist.org/observations/59790865>

Figure 3. *Croton glandulosus* var. *septentrionalis*. Queens Co., New York, 29 Sep 2019. Photo 52831982, Zihao Wang. <https://www.inaturalist.org/observations/33627601>.

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