

Noteworthy plants reported from the Torrey Range—2007 and 2008¹

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LAMONT, E. E. (Local Flora Committee, Torrey Botanical Society, The New York Botanical Garden, Bronx, New York 10458) AND S. D. GLENN (Brooklyn Botanic Garden, 1000 Washington Avenue, Brooklyn, NY 11225). Noteworthy plants reported from the Torrey Range—2007 and 2008. *J. Torrey Bot. Soc.* 136: 541–550. 2009.—Seventeen noteworthy species of vascular plants are reported from the Torrey Range, encompassing southeastern New York, northern New Jersey, and southwestern Connecticut: *Adlumia fungosa*, *Amaranthus spinosus*, *Aplectrum hyemale*, *Arthraxon hispidus*, *Bartonia paniculata*, *Carex reznicekii*, *Carex shortiana*, *Carlina vulgaris*, *Gamochaeta purpurea*, *Hydrilla verticillata*, *Lamiastrum galeobdolon*, *Lepidium latifolium*, *Menyanthes trifoliata*, *Metasequoia glyptostroboides*, *Nipponanthemum nipponicum*, *Phragmites australis* ssp. *americanus*, and *Ribes missouriense*.

Key words: floristics, invasive plants, northward range extensions, rare plants, Torrey Range.

At the turn of the 20th century, the Torrey Range comprised the region within a 100-mile radius of New York City (see Lamont and Fitzgerald (2001) for additional historical information and references), but with the emergence of other local field-oriented botanical groups, notably the Long Island Botanical Society, Connecticut Botanical Society, and the much older Philadelphia Botanical Club, the Torrey Range was reduced in size in the early 1990s when Steven Clemants chaired the Local Flora and Vegetation Committee of the Torrey Botanical Society. Now, the Torrey Range comprises the region within a 50-mile radius of Columbus Circle, New York City, but includes all of Long Island, New York.

During the past 15 years, the Torrey Botanical Society has been collaborating with Brooklyn Botanic Garden and Long Island Botanical Society to compile an extensive database on the past and present status of vascular plants of the Torrey Range. In addition to the local flora reports published in the *Torrey* section of the *Journal of the Torrey Botanical Society*, two other outlets for the dissemination of local flora data have been

developed: Brooklyn Botanic Garden's *New York Metropolitan Flora Project* (Brooklyn Botanic Garden 2009) and Long Island Botanical Society's *Draft Atlas of the Vascular Plants of Long Island, New York* (Long Island Botanical Society 2005). This extensive database has provided a foundation upon which this Torrey report is based.

Of the 17 vascular plant species included in this report, seven are native to the Torrey Range, nine are non-native, and one (*Carex shortiana*) is of questionable nativity status. Five of the native species are listed as rare in either New York, New Jersey, or Connecticut; another native taxon (*Phragmites australis* ssp. *americanus*) is considered by us to be rare but has not yet been officially ranked. Although *Gamochaeta purpurea* is considered rare in New York, it appears to be rapidly extending its range northward into western Long Island where it is colonizing disturbed sites. A new population of *Aplectrum hyemale* is reported from the New Jersey section of the Torrey Range, and new populations of *Adlumia fungosa* and *Bartonia paniculata* are reported from the New York section. An update is presented on the current status of *Carex reznicekii* (described as a new species in 2006 by David Werier) in the Torrey Range.

Of the non-native species included in this report, *Hydrilla verticillata* has the potential to become one of the most invasive submergent aquatic pests in the Torrey Range. *Arthraxon hispidus* and *Lepidium latifolium* have become,

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or have the potential to become, serious invasive terrestrial weeds; and although the invasive potential of *Carlina vulgaris* in the Torrey Range is unknown, continued monitoring is warranted. A spontaneously occurring sapling of *Metasequoia glyptostroboides* from northwestern Long Island represents the first record of this species escaping from cultivation in New York. New populations of *Lamiastrum galeobdolon* and *Ribes missouriense* also are reported from the Torrey Range.

Nomenclature mostly follows Mitchell and Tucker (1997), ranges of distribution and nativity status follows Gleason and Cronquist (1991) unless otherwise stated, and herbarium abbreviations follow Holmgren et al. (1990).

Throughout this report, we have endeavored to give credit to individuals who reported their findings to us. We are especially grateful to David Austin, Martin Bennett, Michael Feder, Carol Gracie, Andrew Greller, Taro Ietaka, Camille Joseph, Linda Kelly, Rich Kelly, Scott Kishbaugh, Michael Nee, Laura Schwanof, William Standaert, Ralph Tiner, David Werier, and Stephen Young. We also thank Eileen Schofield for reviewing an earlier draft of this report.

Discussion of noteworthy plants reported from the Torrey Range—2007 and 2008

Adlumia fungosa (Ait.) Greene ex BSP.

Allegheny Vine, Climbing Fumitory
Fumariaceae, the Fumitory Family

This delicate, native vine was collected at Fahnestock State Park, Putnam County, New York, in July 2007 by Steven Glenn. This collection was only the second voucher from the Torrey Range during the past 40 years; in 1994, it was collected at Harriman-Bear Mountain State Parks by New York State Museum staff (voucher at NYS). *Adlumia fungosa* appears to be in decline in the Torrey Range. Historically, it was collected from the Torrey Range as far south as northern Hunterdon and Somerset counties, New Jersey, and although there are many historical records of this species in northern New Jersey, it has been recorded there only twice (Passaic and Sussex counties) since 1967 (Brooklyn Botanic Garden 2009) and is now listed as “imperiled because of rarity” in New Jersey (New Jersey Natural Heritage Program 2009). *Adlumia fungosa* was collected in 1876 from

Glen Cove, Nassau County, New York (*M. Ruger*, NY), representing the only documented report of this species from Long Island, but efforts to relocate this occurrence have been unsuccessful and *A. fungosa* is considered to be extirpated from Long Island. Additionally, *A. fungosa* has been collected from Fairfield County, Connecticut, but its current status in that county is unknown.

Amaranthus spinosus L.

Spiny Amaranth

Amaranthaceae, the Amaranth Family

This native of tropical America is a pan-tropical weed that also occurs in temperate regions including all of eastern North America (Mosyakin and Robertson 2003). In 2007, *A. spinosus* was collected in Westchester County, New York, by Michael Nee and in Hunterdon County, New Jersey, by Steven Glenn; the first records from the Torrey Range since 1949. This species has never been prevalent in the Torrey Range; Mackenzie noted it as “rare” on his 1921 Mercer County, New Jersey collection, as did Hough (1983). While some species of *Amaranthus* can prove difficult to identify, the paired nodal spines (metamorphosed bracteoles, Costea and Tardif 2003) of *A. spinosus* make it one of the easiest to distinguish.

Aplectrum hyemale (Muhl. ex Willd.) Nutt.

Putty-root

Orchidaceae, the Orchid Family

A population of 14 individuals of *A. hyemale* was located in the Sourland Mountains of Somerset County, New Jersey, in the spring of 2007 by Linda Kelly. This orchid has been reported only twice before from the Torrey Range during the past 120 years: once in 1905 from Fairfield County, Connecticut, and once in 1982 from Sussex County, New Jersey (Brooklyn Botanic Garden 2009). It is ranked “critically imperiled because of extreme rarity” in both New Jersey (New Jersey Natural Heritage Program 2009) and New York (Young 2008), and is in rapid decline throughout New England (Farnsworth and Ogurcak 2006). Putty-root is not uniformly distributed throughout its range, and historically it has been confined in the Torrey Range to a relatively narrow corridor extending from eastern Pennsylvania/western New Jersey

through the lower Hudson Valley into Connecticut (Auclair 1972). It has been hypothesized that *A. hyemale* is less ecologically adaptable than other orchid species, its response to disturbance is highly negative, and “specific site characteristics, especially during the juvenile mycotrophic stage, are probably very exacting in terms of moisture and soil organic conditions” (Auclair 1972). Additionally, one study of putty-root’s breeding system found autogamy and/or agamospermy, along with possible clonal growth, consistent with reports of low levels of variability within the species (Hogan 1983).

***Arthraxon hispidus* (Thunb.) Makino**

Small Carpgrass, Hairy Jointgrass
Poaceae, the Grass Family

Early collections of *A. hispidus* from Missouri, coastal Virginia, and southeastern New York indicate that this non-native, annual grass was present in eastern United States by the early 1930s. Although collected twice in 1937 from Bronx County, New York (*A. T. Beals*, BKL; *J. Monachino*, NY), *A. hispidus* did not spread from that locality and did not become established in the Torrey Range. The first New Jersey collection of *A. hispidus* was from Mercer County, vouchered in 1965 by R. Meyer (CHRB). From 1965 to 2007, all occurrences of *A. hispidus* from the Torrey Range were confined to Hunterdon, Mercer, Middlesex, Monmouth, Somerset, and Warren counties, New Jersey, and were presumably range extensions from more southern populations. In 2008, *A. hispidus* was located by Camille Joseph in the Great Swamp, the first record from Morris County, New Jersey. In 2009, Steven Glenn collected *A. hispidus* in Sussex County, New Jersey, and northern Westchester County, New York, an indication of this species continued spread into the Northeast. Populations of *A. hispidus* have been recently confirmed in both Connecticut and Massachusetts, and the species is now listed in the catalog of invasive species for New England (Mehrhoff et al. 2003). *Arthraxon hispidus* has a high seed banking capability resulting in the formation of dense stands, particularly along shorelines, that may threaten native vegetation (Ohtsuka and Ohsawa 1994, Leck and Leck 2005); it is well established in the southern half of the Torrey Range and can

be expected to expand throughout much of the northern half.

Bartonia paniculata* (Michx.) Muhl. ssp. *paniculata

Panicled Screw-stem
Gentianaceae, the Gentian Family

Panicled screw-stem is rare in the Torrey Range. Historically, it has been documented with voucher collections from only three localities in the New Jersey portion of the Torrey Range, and it has never been documented from Fairfield County, Connecticut; in New York, it is listed as “critically imperiled because of extreme rarity” (Young 2008) and is known only from the southeastern portion of the state. In 2007, a population of *B. paniculata* consisting of approximately 20 individuals was located in Flanders, Suffolk County, New York, by Stephen Young and Eric Lamont. The population occurred within a mesic shrubland dominated by *Clethra alnifolia* L., *Rhododendron viscosum* (L.) Torr., and *Vaccinium corymbosum* L. bordering a pitch pine-oak forest; a few individuals of *B. paniculata* also occurred along the adjacent grassy roadside. In 2008, Taro Ietaka and Carol Gracie located a large population of *B. paniculata* at Cranberry Lake Preserve in North White Plains, Westchester County, New York. The population consisted of approximately 70 individuals concentrated in five separate colonies scattered throughout various wetland habitats bordering Cranberry Lake.

***Carex reznicekii* Werier**

Reznicek’s Sedge
Cyperaceae, the Sedge Family

Carex reznicekii was first described in 2006 (Werier 2006) as a widespread but long overlooked species in eastern North America. It is known from southern Rhode Island, southern Connecticut, and southeastern New York west to southern Ohio and Kentucky, south to Mississippi, Alabama, and Georgia, with disjunct populations in northern Arkansas and southern Missouri (Werier 2006, Ohio Natural Heritage Program 2008). The Torrey Range is close to the northeastern edge of the species distribution. When the species was first described in 2006 it was known in the Torrey Range from two extant populations in Sussex County, New Jersey, one historical population

in Warren County, New Jersey (from 1919), one extant population in Orange County, New York, and one historical population from New York County, New York (from 1893). The specimen label from the New York County population noted that there was “only one plant”. Survey work conducted in 2008 in the town of Brookhaven, Suffolk County, New York (Werier 2008) revealed a large population (6.2 acres and 710 plants) of *C. reznicekii*. In addition, two other populations were found in Orange County, New York, one in 2008 and another in 2009. The historical populations have not been searched for.

This species has been under-collected and overlooked throughout its range possibly because it superficially resembles other closely related species (e.g., *C. umbellata*), it is easiest to identify for only about a month very early in the growing season (in the Torrey Range from late-April to late May), and is difficult to identify without close examination of the plants. In addition, since *C. reznicekii* was only recently described, botanists have previously not been looking for this species. Therefore, it is likely more common in the Torrey Range than current records indicate. It should be sought in dry to dry-mesic oak and oak-hickory dominated forests that lack a dense ericaceous shrub layer. At a distance, in the field, *C. reznicekii* looks a lot like *C. umbellata* although the leaves are often narrower. To distinguish the two in the field, assess whether all of the spikes are sessile to sub-sessile and arise from the upper part of the culms (*C. reznicekii*) or if some of the spikes are on elongated peduncles that arise from the very base of the culms (*C. umbellata*). Keep in mind that the culms of *C. reznicekii* are very short (mostly 1.3–9.9 cm long) and that the spikes on elongated peduncles that arise from the bases of the culms in *C. umbellata* have their peduncles enclosed (and at least partly hidden) in the leaves and sheathes of the culms.

***Carex shortiana* Dewey**

Short's Sedge

Cyperaceae, the Sedge Family

This sedge is native to interior, eastern North America and is common in the Ohio River Valley. In 2008, Steven Glenn collected *C. shortiana* from a moist roadside ditch in Orange County, New York. Previously, the

only record of this species in the Torrey Range was a 1904 collection by C. C. Curtis from Huntington, Suffolk County, New York (voucher at NY). The nativity status of *C. shortiana* in New York is questionable; the only other documented reports are from Onondaga and Wayne counties, based on collections from the 1990's (Weldy and Werier 2005).

During the late 19th century, Porter (1887) considered Franklin County, Pennsylvania, to be the “northern and eastern limit” of *C. shortiana*. Since then it has been reported from scattered localities further east, including Lancaster County, Pennsylvania, where it was listed as “very rare” (Porter 1898), and Northampton County, Pennsylvania, just across the Delaware River from New Jersey (Botany Department, Morris Arboretum 2009). The only report of *C. shortiana* from New Jersey (Hough 1983) is based “on [an] old list for Cape May County (Wherry)”, but no voucher specimen has been located to verify this report. It is likely that *C. shortiana* eventually will be verified as occurring in the New Jersey portion of the Torrey Range. Is this species expanding its range or are the scattered, disjunct populations on its northeast fringe being located?

***Carlina vulgaris* L.**

Carlina Thistle

Asteraceae, the Aster Family

This non-native thistle was observed in 2007 and 2008 at the Johnsonburg Swamp Preserve, Sussex County section, New Jersey, by David Austin and William Standaert. In August 2007, approximately 20 flowering individuals were found scattered at several sites along the edge of a large cultivated Timothy (*Phleum pretense* L.) field bordered by woods. At the same locality in late June 2008, a few additional individuals were found about 25 feet into the field. Johnsonburg is a region dominated by calcareous substrates.

Clausen (1949) reported the first U.S. occurrence of *C. vulgaris* from Cortland and Tompkins counties, New York (documented with a 1944 voucher, deposited at NY). The species was first reported in the Torrey Range at Allamuchy State Park, Warren County, New Jersey, by Tom Halliwell ca. 1982; additional populations were found in Morris, Sussex, and Warren counties, New Jersey, by

David Snyder in 1986 (Snyder 1987). Subsequently, *C. vulgaris* has been sporadically observed and collected at these same three New Jersey counties throughout the 1990s and early 2000s, but it has not been found elsewhere in the Torrey Range.

Some American investigators have proposed that although *C. vulgaris* has a limited distribution at present in North America, "it has the potential to become a serious weed problem as have several other Eurasian thistles" (Keil 2006). Snyder (1987) described *C. vulgaris* as an "aggressive, rapid colonizer" and concluded: "the species is likely to continue to spread in the Northeast." However, ecological studies in its native Europe present a mixed assessment of the invasive potential of *C. vulgaris*. One investigation demonstrated that *C. vulgaris* has high phenotypic plasticity with regard to nutrient and water levels (Berg et al. 2005) which may enhance ecological amplitude and invasive potential. Other studies indicate some of its reproductive traits and habitat preferences may inhibit its invasive potential: flowering can be delayed in some cases for up to eight years, overwinter seed predation on the ground may be high, there is little evidence of a persistent seed bank, and a habitat preference for calcareous substrates (Klinkhamer et al. 1996, Rose et al. 2002). Another study (Lofgren et al. 2000) found that only populations subjected to high disturbance had a positive growth rate.

Despite its apparent lack of expansion out of the Morris-Sussex-Warren counties area during the past 25 years, continued monitoring of *C. vulgaris* populations is warranted as its apparent low invasive potential may be a prolonged lag-phase in its invasive trajectory.

***Gamochaeta purpurea* (L.) Cabrera**

Purple Everlasting, Spoon-leaf Cudweed
Asteraceae, the Aster Family

Gamochaeta purpurea [= *Gnaphalium purpureum* L.] is at the northern limit of its range in southeastern New York and southern New England. It is considered extirpated in Connecticut and Rhode Island and is listed as endangered in Massachusetts. New York Natural Heritage Program ranks it as an S1 rare plant, "critically imperiled in New York State because of extreme rarity" (Young 2008).

Michael Feder first encountered *G. purpurea* in 2007 when he found four individuals in Queens County, New York. In 2008 and 2009, Feder observed it growing in at least 30 separate localities, mostly in the vicinity of Forest Hills, Queens County, but also in Flushing and Sunnyside, Queens County, and even one individual in Central Park, New York County. Individuals usually occur singly in unmowed areas between sidewalks and streets and also in weedy lawns; but larger colonies of at least 10 to 15 individuals also have been observed. In 2008, Rich Kelly located scattered individuals of *G. purpurea* spontaneously occurring in flower beds in New Hyde Park, Nassau County, New York.

In the southeastern United States, *G. purpurea* usually occurs in fields, roadsides, pastures, and waste places (Weakley 2009); similar to the habitat it is colonizing on western Long Island. This apparent rapid northern range expansion also has been recently observed in other species such as *Eupatorium serotinum* Michx., *Froelichia gracilis* (Hook.) Moq., and *Heterotheca subaxillaris* (Lam.) Britt. & Rusby.

***Hydrilla verticillata* (L. f.) Royle**

Hydrilla

Hydrocharitaceae, the Frog's-bit Family

The much anticipated and much feared arrival of *Hydrilla* into New York State and Long Island was realized in August of 2008. *Hydrilla* is native to parts of Asia, Africa, and Australia, was first introduced to Florida in the early 1950s, and has migrated to the northeast, appearing in New Jersey, Pennsylvania, Connecticut, Massachusetts, and Maine in recent years (Kishbaugh 2008). It is considered to be the most invasive aquatic plant in North America, with the state of Florida spending millions of dollars annually in "maintenance control".

Less than a week after *H. verticillata* was first confirmed in a small pond in Orange County, New York, this highly invasive exotic plant was also discovered in southwestern Suffolk County by Scott Kishbaugh. It was found growing lushly in two of the three most southern ponds in the Sans Souci Lake chain of ponds in Sans Souci County Park. *Hydrilla* was also observed in the southern portion of Lotus Lake in the same park system, but the

extent of that *Hydrilla* infestation is not yet known.

New York individuals of *Hydrilla* are believed to be the dioecious form, more commonly found in the southeastern United States; the dioecious form presents greater eradication challenges than the monocious form, more common to the mid-Atlantic region (Kishbaugh 2008). Efforts are underway to evaluate the most appropriate control strategies and plot a course of action.

***Lamiastrum galeobdolon* (L.) Ehren. & Polatschek**

Yellow Archangel

Lamiaceae, the Mint Family

Lamiastrum galeobdolon is a perennial, evergreen groundcover native to western and northern Europe to Iran (Tutin and Heywood 1972, MacKenzie 1997). This popular garden plant has been reported naturalizing in Massachusetts, Pennsylvania, and Virginia (USDA Plants 2009) and now appears to have become established at a few localities in the Torrey Range. In 1992, *L. galeobdolon* was collected at West Hills County Park in Suffolk County, New York, by Andrew Greller; it was subsequently found in 2001 escaping from cultivation near Boontown in Morris County, New Jersey, by Patrick Cooney. In 2004, it was collected in Westchester County, New York, by Steven Glenn; and in 2005, Glenn collected it in Fairfield County, Connecticut. In 2007 and 2008 *L. galeobdolon* was found at two localities in the vicinity of Cold Spring Harbor, on the border of Nassau and Suffolk counties, New York, by Martin Bennett. These populations in the Torrey Range probably arose from the dumping of garden waste; MacKenzie (1997) noted that *L. galeobdolon* cuttings and stems easily root when in contact with soil. All occurrences of this species in the Torrey Range to date were located in shady, mesic to moist habitats, in agreement with the stated native-range habitats of the species (Tutin and Heywood 1972); although MacKenzie (1997) noted that *L. galeobdolon* can also tolerate full sun provided there is ample moisture. Naturalized populations of *L. galeobdolon* in the Torrey Range are characterized by individuals with a distinct silvery pattern on the leaves. Most European botanists (see Loos 1997, Rosenbaumova et al. 2004) recognize such individuals as either

Lamiastrum galeobdolon ssp. *argentatum* (Smejkal) Stace or more commonly *Lamium galeobdolon* (L.) Crantz ssp. *argentatum* (Smejkal) J. Duvign [= *Lamium argentatum* (Smejkal) Henker ex G. H. Loos]; but most American botanists do not recognize this subspecies (USDA Plants 2008, Weldy and Werier 2005).

***Lepidium latifolium* L.**

Perennial Peppergrass, Tall Whitetop
Brassicaceae, the Mustard Family

This highly invasive, herbaceous, perennial is native to southeastern Europe and southwestern Asia. In the United States, infestations of *L. latifolium* have been reported in coastal New England and throughout all of the states west of the Rocky Mountains (Renz 2000). In 2006, an established population of *L. latifolium* was found just south of Old Field in Suffolk County, New York, by Laura Schwannof; more than 100 flowering individuals occurred along the extreme upper edge of the salt shrub zone at West Meadow Beach on the eastern side of Smithtown Bay. In 2008 and 2009, Eric Lamont and Steven Glenn reported that the population had significantly expanded throughout the West Meadow Beach area, into West Meadow Wetlands Reserve, and had also colonized roadsides to the west and north of the original infestation. The only previous collections of *L. latifolium* from Long Island were in 1936 from the vicinity of Flushing Bay, Flushing, Queens County (*J. Monachino*, BKL, CHR), but *L. latifolium* did not become established at that locality. The only other site in the Torrey Range that *L. latifolium* has become established is in Fairfield County, Connecticut. First collected in that county in 1934 from the vicinity of Darien, from "Holly Pond to Pratts Island" (vouchered by *Eames*, BKL), *L. latifolium* was again collected in Fairfield County in 2006 from the north shore of Cove Island, by Steven Glenn.

The only non-chemical control method effective against large populations of *L. latifolium* is long-term flooding, but it is not known if plants will reestablish if the flooding regime is removed from these areas (Fredrickson and Murray 1999). The most consistent control was found with the use of herbicides applied at the flowerbud to early flowering stage (Young et al. 1998, Trumbo 1994). No

biological control agents have been introduced to control perennial pepperweed; to date no biological control agents have been established on any member of the Brassicaceae (Birdsall et al. 1997).

***Menyanthes trifoliata* L.**

Buckbean

Menyanthaceae, the Buckbean Family

This circumboreal species ranges south in easternmost North America to New Jersey, with a few scattered occurrences further south (Gleason and Cronquist 1991, Weakley 2008). Historically, more than 20 populations of *M. trifoliata* have been reported from the Torrey Range from Long Island to Morris and Warren counties, New Jersey, northward; but during the past 35 years only two populations have been known to be extant. One population was located in 1988 in the vicinity of Deer Park, Orange County, New York; the other, a thriving population consisting of dozens of individuals, was observed in a calcareous fen by David Austin in 2007 in Sussex County, New Jersey.

The decline of *M. trifoliata* in the Torrey Range is something of a mystery. Buckbean's unique morphology would preclude it from being simply overlooked, and the loss of wetland habitats cannot solely explain such a precipitous crash in the number of populations. A review of the literature reveals no exacting ecological requirements other than water. One study in England found broad adaptability to pH and substrate organic matter content and concluded that climatic factors are not major limitations on the distribution of *M. trifoliata* (Hewett 1964). Another researcher noted that buckbean demonstrates phenotypic and phenological plasticity, allowing it to persist even in a *Phragmites australis* community (Haraguchi 1993). Certain reproductive aspects of *M. trifoliata* may provide some insight into its decline in the Torrey Range. One study noted that *M. trifoliata* is highly self-incompatible (Thompson et al. 1998). Perhaps populations in the Torrey Range are too widely scattered to effectively outcross with each other and produce viable seed. Additionally, a Swedish investigator concluded that germination is hampered by the strong seed coat and seedlings are rare (Sjors 1988).

***Metasequoia glyptostroboides* Hu & W. C. Cheng**

Dawn Redwood

Taxodiaceae, the Bald Cypress Family

The story of the discovery of living specimens of *M. glyptostroboides* in central China in 1945 and the subsequent collection and distribution of viable seeds has been summarized by Ma (2003). Some of the earliest successful plantings of *M. glyptostroboides*, from among the first seeds collected in China, were in the vicinity of greater New York City (Kuser 1999); these individuals have been thriving for more than 50 years and are now reproductively mature. In 2008, Andrew Grelle et al. located a 10–15 foot tall spontaneously occurring sapling of *M. glyptostroboides* in Alley Pond Park, Queens County, New York. Specifically, the sapling was found “in a wooded part of a kettle, at the west end of Lily Pond” (A. Grelle and R. Kelly, pers. comm.). Grelle's report represents the first record of this widely planted species escaping from cultivation in New York.

***Nipponanthemum nipponicum* (Franch. ex Maxim.) Kitam.**

Nippon Daisy

Asteraceae, the Aster Family

This robust, shrubby, perennial daisy is endemic to the maritime rocky slopes and shores of Honshu Island, Japan (Iwatsuki et al. 1995). In North America, it has been reported as adventive in coastal New Jersey and New York (Strother 2006, USDA Plants 2009). The first published report of naturalized Nippon daisy from the Torrey Range was based on a 1988 collection from Orient Beach State Park, Suffolk County, New York (Lamont and Stalter 1991). Subsequently, Steven Glenn found it in 2004 naturalized along a coastal area in Fairfield County, Connecticut, and again in 2005 and 2006 at several localities on the South Fork of Long Island, New York. In 2008, naturalized *N. nipponicum* was located on the north shore of Long Island at Caumsett State Park, Suffolk County, by Andrew Grelle. It appears that *N. nipponicum* has become established in our coastal zones but at present it does not exhibit characteristics of an invasive species.

Another common name for this species is Montauk daisy, which intimates that this

species might have been established on eastern Long Island longer than the botanical community has realized. Concerning the alleged origin of Montauk daisy, one garden website notes, "Curiously, the tag that came with the plant states that it is native to the area around the Montauk Lighthouse in the state of New York." Likewise, another garden website notes, "This all happened in the 50's, when the villages on the South Fork were not as developed as they are now. In the course of the gentrification of the area, nurseries and landscape professionals moved in, and decided that the ubiquitous Nippon Daisy was an important facet of any locally correct landscape design, but the name was all wrong. They changed it to Montauk Daisy." Many eastern Long Island landscapers utilize *N. nipponicum* for planting in coastal and other dry situations, and this is probably how the species was introduced into the Torrey Range.

***Phragmites australis* (Cav.) Trin. ex Steud. ssp. americanus** Saltonstall, P.M. Peterson, & Soreng

Common Reed

Poaceae, the Grass Family

In the late 1970s, William Niering and colleagues at Connecticut College found the remains of *Phragmites* rhizomes in 3000 year old peat cores extracted from a marsh in Branford, Connecticut (Niering et al. 1977), thus igniting discussion on a native form of *Phragmites* that had been part of the New England estuarine landscape since its establishment after the last ice age. Subsequently, Kristin Saltonstall was able to genetically separate the native from the introduced *Phragmites* haplotypes (Saltonstall 2002), leading to the description of *Phragmites australis* ssp. *americanus* (Saltonstall et al. 2004). Close examination of living plants further resulted in the delimitation of some key morphological differences between the native and the introduced subspecies (Meadows and Saltonstall 2007).

In October 2008, Ralph Tiner came upon a small colony of what appeared to be the native subspecies of common reed in the marshes of Bellport Bay, Suffolk County, New York. Tiner collected a sample and sent it to Bernd Blossey at Cornell University who confirmed the identification as subspecies *americanus*. The native subspecies occurred both along the

upper edges of a salt marsh among a small colony of *Schoenoplectus robustus* (Pursh) M. T. Strong, and with the introduced subspecies along a road embankment. Other species associated with the native type included *Solidago sempervirens* L., *Rosa palustris* Marsh., and *Toxicodendron radicans* (L.) Kuntz. As far as we know, this record is the first documented occurrence of *P. australis* ssp. *americanus* on Long Island in more than 100 years.

More populations of native *Phragmites* probably will be found throughout the Torrey Range as botanists, ecologists, and nature enthusiasts become familiar with the properties of the native subspecies. Wildlife managers and restoration ecologists should recognize populations of the native subspecies as rare or uncommon plant communities worthy of protection and maintenance rather than as invasive noxious plants in need of eradication.

***Ribes missouriense* Nutt.**

Missouri Gooseberry

Grossulariaceae, the Gooseberry Family

This spiny gooseberry is native to the mid-western United States and is occasionally adventive further east (Morin 2009). In early May 2008, Steven Glenn found an apparently naturalized individual of *R. missouriense* along a railroad bank in East Setauket, Suffolk County, New York. This report represents the first record of this species in New York State (Mitchell and Tucker 1996, Weldy and Werier 2005).

Historically, *R. missouriense* has been reported from only a few localities in the Torrey Range. In 1906–07, it was collected by E. H. Eames from a "fencerow far from any house, removed from any habitations", near Norwalk, Fairfield County, Connecticut. It is of coincidental interest that *R. missouriense* was first reported in cultivation in 1907 (Pfister and Sloan 2008). In New Jersey, *R. missouriense* has been collected from two sites in Hunterdon County (*E. A. Laport*, 1970; *D. Snyder*, 1982) and southeast of Tabor in Morris County (*S. D. Glenn*, 2003).

Missouri gooseberry is most likely dispersed long distance by avian frugivores and the seed can remain viable in the ground for long periods of time (Stiles 1980, Pfister and Sloan 2008). *Ribes missouriense* is morphologically very similar to the native *R. rotundifolium*

Michx., but the later species is confined in our area to rocky, upland woods. The only reliable way to differentiate between the two species is by stamen length.

Literature Cited

- AUCLAIR, A. N. 1972. Comparative ecology of the orchids *Aplectrum hyemale* and *Orchis spectabilis*. Bull. Torrey Bot. Club 99: 1–10.
- BERG, H., U. BECKER, AND D. MATTHIES. 2005. Phenotypic plasticity in *Carlina vulgaris*: effects of geographical origin, population size, and population isolation. Oecologia 143: 220–231.
- BIRDSALL, J., C. QUIMBY, T. SVEICAR, AND J. A. YOUNG. 1997. Potential for biocontrol of perennial peppergrass. USDA Agriculture Experiment Station, Oregon State Univ., Special Report 972: 11–14.
- BOTANY DEPARTMENT, MORRIS ARBORETUM. 2009. The Pennsylvania Flora Project. Botany Department, Morris Arboretum of the University of Pennsylvania, Philadelphia, PA. <<http://www.paflo.org>> [Accessed July 29, 2009].
- BROOKLYN BOTANIC GARDEN. 2009. New York Metropolitan Flora Project database. [Accessed July 28–August 13, 2009]. Data available upon request from the second author.
- CLAUSEN, R. T. 1949. *Carlina vulgaris* in the Cayuga quadrangle, 42–43°N, 76–77°W. Rhodora 51: 33–34.
- COSTEA, M. AND F. J. TARDIF. 2003. The bracteoles in *Amaranthus* (Amaranthaceae): their morphology, structure, function, and taxonomic significance. Sida 20: 969–985.
- FARNSWORTH, E. J. AND D. E. OGURCAK. 2006. Biogeography and decline of rare plants in New England: historical evidence and contemporary monitoring. Ecol. Appl. 16: 1327–1337.
- FREDICKSON, L. H. AND K. L. MURRAY. 1999. Response of tall whitetop to land management practices in the San Luis Valley, Colorado. Natl. Symposium on Tall Whitetop-1999, Alamosa, CO.
- GLEASON, H. A. AND A. CRONQUIST. 1991. Manual of vascular plants of northeastern United States and adjacent Canada. 2nd ed. New York Botanical Garden, Bronx, NY.
- HARAGUCHI, A. 1993. Phenotypic and phenological plasticity of an aquatic macrophyte *Menyanthes trifoliata* L. J. Plant Res. 106: 31–35.
- HEWETT, D. G. 1964. *Menyanthes trifoliata* L. J. Ecol. 52: 723–735.
- HOGAN, K. P. 1983. The pollination biology and breeding system of *Aplectrum hymale*. Can. J. Bot. 61: 1906–1910.
- HOLMGREN, P. K., N. H. HOLMGREN, AND L. C. BARNETT, eds. 1990. Index Herbariorum. Part I: The herbaria of the world. 8th ed. Regnum Veg. 120: 1–693.
- HOUGH, M. Y. 1983. New Jersey wild plants. Harmony Press, Harmony, NJ.
- IWATSUKI, K., T. YAMAZAKI, D. E. BOUFFORD, AND H. OHBA, eds. 1995. Flora of Japan. Vol. 3b. Kodansha Ltd, Tokyo.
- KEIL, D. J. 2006. *Carlina* Linnaeus. p. 84–85. In: Flora of North America Editorial Committee [eds.]. 2006. Flora of North America north of Mexico. Vol. 19: Magnoliophyta: Asteridae, part 6: Asteraceae, part 1. Oxford Univ. Press, New York, NY.
- KISHBAUGH, S. A. 2008. Plant Sightings: *Hydrilla verticillata*. Long Island Bot. Soc. Newsletter 18: 26.
- KLINKHAMER, P. G., T. J. DE JONG, AND J. L. H. DE HEIDEN. 1996. An eight-year study of population dynamics and life-history variation of the “biennial” *Carlina vulgaris*. Oikos 75: 259–268.
- KUSER, J. E. 1999. *Metasequoia glyptostroboides*: fifty years of growth in North America. Arnoldia 58(4) and 59(1): 76–79.
- LAMONT, E. E. AND R. STALTER. 1991. The vascular flora of Orient Beach State Park, Long Island, New York. Bull. Torrey Bot. Club 118: 459–468.
- LAMONT, E. E. AND J. M. FITZGERALD. 2001. Noteworthy plants reported from the Torrey Range—2000. J. Torrey Bot. Soc. 128: 409–414.
- LECK, M. A. AND C. F. LECK. 2005. Vascular plants of a Delaware River tidal freshwater wetland and adjacent terrestrial areas: seed bank and vegetation comparisons of reference and constructed marshes and annotated species list. J. Torrey Bot. Soc. 132: 323–354.
- LOFGREN, P., O. ERIKSSON, AND K. LEHTILA. 2000. Population dynamics and the effect of disturbance in the monocarpic herb *Carlina vulgaris* (Asteraceae). Annales Botanici Fennici 37: 183–192.
- LONG ISLAND BOTANICAL SOCIETY. 2005. Draft atlas of the vascular plants of Long Island, New York. Privately printed by the Flora Committee of the Long Island Botanical Society.
- LOOS, G. H. 1997. On the taxonomy of *Lamium* L. subgenus *Galeobdolon* (Adans.) Aschers. Floristische Rundbriefe 31: 39–50.
- MA, J. 2003. The chronology of the “Living Fossil” *Metasequoia glyptostoboides*: a review (1943–2003). Harv. Pap. Bot. 8: 9–18.
- MACKENZIE, D. S. 1997. Perennial ground covers. Timber Press, Portland, OR.
- MEADOWS, R. E. AND K. SALTONSTALL. 2007. Distribution of native and introduced *Phragmites australis* in freshwater and oligohaline tidal marshes of the Delmarva Peninsula and southern New Jersey. J. Torrey Bot. Soc. 134: 99–107.
- MEHRHOFF, L. J., J. A. SILANDER, JR., S. A. LEICHT, E. S. MOSHER, AND N. M. TABAK. 2003. IPANE: Invasive Plant Atlas of New England. Department of Ecology & Evolutionary Biology, University of Connecticut, Storrs, CT. <<http://www.ipane.org>> [Accessed July 28–August 13, 2009].
- MITCHELL, R. S. AND G. C. TUCKER. 1997. Revised checklist of New York State plants. New York State Mus. Bull. 490: 1–400.
- MORIN, N. R. 2009. *Ribes* Linnaeus. p. 9–42. In: Flora of North America Editorial Committee [eds.]. 2009. Flora of North America north of Mexico. Vol. 8: Magnoliophyta: Paoniaceae to Ericaceae. Oxford Univ. Press, New York, NY.
- MOSYAKIN, S. L. AND K. R. ROBERTSON. 2003. *Amaranthus* Linnaeus. p. 410–435. In: Flora of

- North America Editorial Committee [eds.]. 2003. Flora of North America north of Mexico. Vol. 4: Magnoliophyta: Caryophyllidae, part 1. Oxford Univ. Press, New York, NY.
- NEW JERSEY NATURAL HERITAGE PROGRAM. 2009. List of endangered plant species and plant species of concern. N.J. Dept. Envir. Protection, Div. Parks & Rec., Trenton, NJ. <<http://www.nj.gov/dep/parksandforests/natural/heritage/feb2009plantlist.pdf>> [Accessed July 28–August 13, 2009].
- NIERING, W. A., R. S. WARREN, AND C. G. WEYMOUTH. 1977. Our dynamic tidal marshes: vegetation changes as revealed by peat analysis. Conn. Arboretum Bull. 22: 1–12, The Connecticut Arboretum, New London, CT.
- OHIO NATURAL HERITAGE PROGRAM. 2008. *Carex reznicekii* abstract. Ohio Natural Heritage Program, Columbus, OH. <http://www.dnr.state.oh.us/Portals/3/Abstracts/Abstract_pdf/C/Carex_reznicekii.pdf> [Accessed 12 October 2009].
- OHTSUKA, T. AND M. OHSAWA. 1994. Accumulation of buried seeds and establishment of ruderal therophytic communities in disturbed habitat, central Japan. Vegetatio 110: 83–96.
- PFISTER, R. D. AND J. P. SLOAN. 2008. Woody plant seed manual. U.S. Dept. Agric., Forest Service Agriculture Handbook 727. *Ribes* L. <<http://www.nsl.fs.fed.us/wpsm/>> [Accessed August 7, 2009].
- PORTER, T. C. 1887. A list of the Carices of Pennsylvania. Proc. Acad. Nat. Sci. Philadelphia 39: 68–80.
- PORTER, T. C. 1898. The flora of the lower Susquehanna. Bull. Torrey Bot. Club 25: 485–494.
- RENZ, M. J. 2000. Element Stewardship Abstract for *Lepidium latifolium* L. The Nature Conservancy, Arlington, VA.
- ROSE, K. E., M. REES, AND P. J. GRUBB. 2002. Evolution in the real world: stochastic variation and the determinants of fitness in *Carlina vulgaris*. Evolution 56: 1416–1430.
- ROSENBAUMOVA, R., I. PLACKOVA, AND J. SUDA. 2004. Variation in *Lamium* subg. *Galeobdolon* (Lamiaceae) – insights from ploidy levels, morphology and isozymes. Plant Syst. Evol. 244: 219–244.
- SALTONSTALL, K. 2002. Cryptic invasion by a non-native genotype of the common reed, *Phragmites australis*, into North America. Proc. Natl. Acad. Sci. U.S.A. 99: 2445–2449.
- SALTONSTALL, K., P. M. PETERSON, AND R. SORENG. 2004. Recognition of *Phragmites australis* subsp. *americanus* (Poaceae: Arundinoideae) in North America: Evidence from morphological and genetic analyses. Sida 21: 683–692.
- SJORS, H. 1988. *Menyanthes trifoliata*: a short monograph. Svensk Botanisk Tidskrift 82: 51–64.
- SNYDER, D. B. 1987. Notes on some of New Jersey's adventive flora. Bartonica 53: 17–23.
- STILES, E. W. 1980. Patterns of fruit presentation and seed dispersal in bird-disseminated woody plants in the eastern deciduous forest. Am. Nat. 116: 670–688.
- STROTHER, J. L. 2006. *Nipponantherum* (Kitamura) Kitamura. p. 555–556. In: Flora of North America Editorial Committee [eds.]. 2006. Flora of North America north of Mexico. Vol. 19: Magnoliophyta: Asteridae, part 6: Asteraceae, part 1. Oxford Univ. Press, New York, NY.
- THOMPSON, F. L., L. A. HERMANUTZ, AND D. J. INNES. 1998. The reproductive ecology of island populations of distylous *Menyanthes trifolia* (Menyanthaceae). Can. J. Bot. 76: 818–828.
- TRUMBO, J. 1994. Perennial Peppergrass: A threat to wildland areas. CalEPPC Newsletter 2: 4–5.
- TUTIN, T. G. AND V. H. HEYWOOD [eds.]. 1972. Flora Europaea. Vol. 3. Cambridge Univ. Press, London, UK.
- USDA PLANTS. 2009. United States Department of Agriculture, National Resources Conservation Service. The PLANTS Database. National Plant Data Center, Baton Rouge, LA. <<http://www.plants.usda.gov>> [Accessed July 28–August 13, 2009].
- WEAKLEY, A. S. 2008. Flora of the Carolinas, Virginia, Georgia, northern Florida, and surrounding areas. Working draft of 7 April 2008. Univ. North Carolina Herbarium, Chapel Hill. <<http://www.herbarium.unc.edu/WeakleysFlora.pdf>> [Accessed August 3–10, 2009].
- WEGMULLER, S. 1971. A cytotoxic study of *Lamiastrum galeobdolon* (L.) Ehrend. & Polatschek in Britain. Watsonia 8: 277–288.
- WELDY, T. AND D. WERIER. 2005. New York flora atlas. [S. M. Landry, K. N. Campbell, and L. D. Mabe (original application development), Florida Center for Community Design and Research. University of South Florida]. New York Flora Association, Albany, NY.
- WERIER, D. 2006. *Carex reznicekii*, a new widespread species of *Carex* section *Acrocystis* (Cyperaceae) from eastern North America. Sida 22: 1049–1070.
- WERIER, D. 2008. More rare plants on the undeveloped lands at Keyspan utility company's Shoreham facility. Unpublished. New York Natural Heritage Program, Albany, NY.
- YOUNG, J. A., D. E. PALMQUIST, AND R. BLANK. 1998. The ecology and control of perennial peppergrass (*Lepidium latifolium* L.). Weed Technol. 12: 402–405.
- YOUNG, S. M. 2008. New York Rare Plant Status Lists. New York Natural Heritage Program, Albany, NY.