

FA Quarterly Newsletter

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New York Flora Association

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Editor's Note: We are happy to have two new contributors in this issue: an article by Ed Miller gives us a glimpse of a very special place (and one well worth a visit) - the George Landis Arboretum in Schoharie County, where he and fellow enthusiasts undertook an ambitious project; and Dan Brunton of Ottawa tells the exciting story of finding an orchid "new" to New York State. In addition to these fine articles we have a report by Joe McMullen on the upcoming invasive plant legislation, a short piece on additions to the flora of St. Lawrence County by me, and since we had some extra space, a short sedge quiz.



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Great Plains Ladies-tresses (Spiranthes magnicamporum) **Discovered in New York State**

By Daniel F. Brunton

For all sorts of good reasons, orchids and ferns are two of the most sought-after and well-known plant groups. Accordingly, the discovery of a new species of one of these in a particular region is an unusual and enjoyable event, particularly so when it happens at the state level. The pleasure of such a discovery in New York this Fall was substantially enhanced by the surprisingly quick success of a dedicated search for the species in question.

This new species is the relatively recently described Great Plains Ladies-tresses (Spiranthes magnicamporum Sheviak). As the name implies, it is a western taxon found east of the Great Lakes only in isolated populations (Luer 1975, Sheviak and Brown 2002). These populations typically are in dry, sandy, calcareous and open sterile meadows. Disjunct eastern populations usually occur in alvars and relict prairies. Until this year, the closest to New York it was known to occur was from: several populations in western Ohio, from two presumed extirpated 19th Century records in southeastern Pennsylvania (Rhodes and Block 2000) and from a relatively large number of populations in southwestern Ontario (Whiting and Catling 1986). It is considered rare and/ or of conservation concern in all those jurisdictions.

In September 2013 while conducting vegetation research, research scientist and alvar authority Paul Catling of Agriculture Canada made the startling discovery of a huge population (500+ plants) of Spiranthes magnicamporum on the Burnt Lands Alvar in eastern Ontario (Reddoch et al. 2013). The habitat occupied by these plants reminded him of the Cape Vincent alvars of Jefferson County, NY. Since Cape Vincent has virtually the same longitude as the Burnt Lands, he reasoned that S. magnicamporum would be no more unlikely there than it was in eastern Ontario. Accordingly, the next day he travelled to Jefferson County and searched several of the alvars, but without luck.

In September 2014 on my way home to Ottawa Ontario after participating in the extraordinary NYFA aquatic plant workshop at SUNY Oswego, I hoped to fit in a quick search of those NY alvars for Spiranthes, if time and circumstance permitted. There was time but not much of it so in the late afternoon of 7 September I drove directly to the Chaumont Barren refuge, largely because of its easy access. Having examined the Burnt Lands population with Paul Catling a few days after his remarkable discovery the year before, I had a fairly clear search image in mind: a



tall, robust *Spiranthes* growing with or near Prairie Dropseed (*Sporobolus heterolepis* (Gray) Gray) and other prairie grasses in thin, slightly moist, herb-rich turf in an areas of frequently exposed limestone bedrock. The plants should be approaching or have just come into full flower (*S. magnicamporum* starts flowering as the very common and similar Nodding Ladies-tresses (*S. cernua* (L.) Rich.) is finishing), and should have leafless stems and flared lateral sepals giving individual flowers a 'bad hair-day' look in comparison to the 'slicked down' appearance of *S. cernua* flowers. Very helpfully, *S. magnicamporum* gives off a strong vanilla-like perfume as opposed to the usually scentless *S. cernua*.

Finding a small population of *Spiranthes magnicamporum* (a dozen plants) took only about 15 minutes. It was simply a matter of moving across the site until apparently suitable habitat was first encountered and looking about. There they were, right out in the open. My first thought was that this was too easy and these must be just odd-ball *S. cernua*. A careful examination of the morphology of the plants and noting their strong, lovely odour, however, confirmed otherwise. More importantly, orchid experts Catling and Charles Sheviak (who named the species in the first place), verified photographs of the plants. A voucher specimen has been placed in the NYS herbarium. When considerable searching of the immediate area and other suitable-looking sites turned up no additional plants, I appreciated my initial good fortune all the more.



Spiranthes magnicamporum habitat at Chaumont.

NY field botanists Steve Daniel and Anne Johnson revisited the Chaumont site with Deb Koen of the Nature Conservancy on 13 September and found an entirely separate and larger population (90 plants) some distance from the first (S. Daniel pers. comm.). Just to stir the pot a little more, however, photographs from the second Chaumont population show characteristics of *cernua* x *magnicamporum* hybrids. Charles Sheviak confirmed that while classic populations are easy enough to differentiate, some populations can only be determined with certainty by a chromosome count! Ottawa, Ontario field botanist Holly Bickerton visited Chaumont on 23 September and found about 50 flowering plants at the original site. The presence of *Spiranthes magnicamporum* further enhances the already considerable importance of the Chaumont Alvar as a refuge (literally and figuratively) for relict, disjunct native flora east of the Great Lakes.



But it did not end there. Three weeks after the Chaumont discovery, Ottawa Ontario botanist Henry Steger found a third population of *Spiranthes magnicamporum* along the shore of the St. Lawrence River at Hopson Bay in St. Lawrence County north of Massena. There were 76 plants present on 25 September, growing in an open, low-lying, sparsely vegetated meadow along Highway 131. The site is a disturbed roadside and quite unlike the alvar habitat at Chaumont. At Hopson Bay the *Spiranthes* is growing with calcicoles Pringle's Aster (*Symphyotrichum pilosum* (Willd.) Newsom *ssp. pringelii* (Gray) Neesom) and Large Fringed Gentian (*Gentianopsis crinita* (Froel) Ma) (H. Steger, pers. comm.) and the only known St. Lawrence County population of the western adventive Maximilian Sunflower (*Helianthus maximiliani* Schrad.) (Eldblom and Johnson 2010).

It has probably been some years since a new orchid species has been discovered in NY yet in the span of three weeks an international crew of field botanists found three distinct populations and over 200 individual plants of this *Spiranthes*. Perhaps 2014 was an extraordinary year for the species and so it was especially conspicuous. Or perhaps we all just dismissed such populations in the past as being late-flowering and nicely scented *Spiranthes cernua*, 'knowing' that there was no reasonable expectation for *S*. *magnicamporum* to occur here. Regardless, this clearly demonstrates that it's always worthwhile being open to seemingly unlikely possibilities.



Spiranthes magnicamporum. Note the spreading sepals.

References

Eldblom, N.C. and A.M. Johnson. 2010. Plants of St. Lawrence County, NY: An Annotated Checklist of vascular Flora. Bloated Toe Publishing, Peru.

Luer, C.A. 1975. *The Native Orchids of the United States and Canada excluding Florida*. New York Botanic Garden, New York.



Reddoch, J.M., P.M. Catling and A.H. Reddoch. 2013. Great Plains Ladies-tresses, *Spiranthes magnicamporum*: disjunct in eastern Ontario and a new orchid species for the Ottawa District and Lanark County. *The Canadian Field-Naturalist* 127: 348-351.

Rhodes, A.F. and T.A. Block. 2000. *The Plants of Pennsylvania, an illustrated manual*. University of Pennsylvania Press, Philadelphia.

Sheviak, C.J. and P.M. Brown. 2002. Spiranthes Richard, in Flora of North America, Volume 26: Magnoliophyta: Liliida: Liliales and Orchidales. Oxford University Press, New York.

Whiting, R.E. and P. M. Catling. 1986. Orchids of Ontario, an illustrated guide. CanaColl Foundation, Ottawa.

Editor's note: In addition to the three distinct populations mentioned in Dan Brunton's article, Steven Daniel and I turned up another one, similar in habitat to the Hopson's Flat location. See the article on additions to the St. Lawrence County flora in this newsletter for more details. And to learn more about the distribution of this species, see Dan Brunton's forthcoming article in the Canadian Field Naturalist: Brunton, Daniel F. 2015. Great Plains Ladies'-tresses (*Spiranthes magnicamporum*) in the Lower Great Lakes Region and A New Record for New York State. Canadian Field Naturalist 129.



Collections at the Landis Arboretum

By Ed Miller, Curator



The Landis Arboretum's Native Plant Collection in Esperance, Schoharie County is the one place where you can see nearly every woody plant native to New York State, all clearly labeled on a self-guided halfmile nature walk. This collection of native trees and shrubs was started about fifteen years ago. Our goal was to have all of New York's native woody plants, though we soon trimmed this goal to exclude alpine, seashore, endangered, and noxious species. With well over 200 species to date, we have pretty much reached our goal. We decided to group our plants by families, so that closely related species could be easily compared. This family grouping has worked very well, but we have also planted duplicate specimens in their preferred habitats; for instance, swamp rose is planted in our wetland habitat as well as in the rose family grouping.

Each plant is labeled with common and technical names. One specimen in a habitat has a plate with an accession number to conform to botanical garden procedures. You can enter the accession number in a computer program and find when it was planted, where it came from, etc.

To provide additional information to the visitor, nine mailboxes are located at the various groupings. The boxes contain maps showing where the specific plants are located. This is particularly useful in the understory collection where there are over forty species, but also in the areas of the larger families (rose, pine, and honeysuckle). More recently we have supplemented these information sites with QRs (quick response codes - two dimensional barcodes that can be read digitally). People with smart phones can use the QRs to access a one minute lecture on the plants in the vicinity.

The sumac family has the four non-poisonous native species. Sumac plants are male or female and we try to have both kinds. The dogwood family includes the beautiful and showy flowering dogwood, as well as the more common gray dogwood and the closely related tupelo. The beech family group has a dozen species of oak, including the two shrub species found in the pine bush, specimens of American beech, and (if it lives) American chestnut. The honeysuckle family group includes species of honeysuckle, elder, snowberry, and Viburnum. The olive family has only ash, the sole native genus. The birch family group includes species of hickory and walnut.

The largest family group is the rose family, with species in many genera from Amelanchier (shadbush) to



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Spiraea (meadowsweet). The willow family group includes aspen, poplar, and willow. The maple family has all six native species. Nearby are three of the four native grapes, two species of Virginia creeper and other native vines.

The pine family has all five native pine species in small specimens located near large native and introduced species. Spruce, hemlock, cedar, juniper and yew are here. The elm family has two species of elm and one of hackberry.

The large heath family is not in any one location because of the various habitat requirements of its members. The species are scattered among the bog garden and dry, understory, and wetland habitats.

As mentioned, selected native plants are grouped according to their desired habitat. There is a dry habitat, a wet location, and an in-between location for plants that like the semi-shade. We have built a narrow spur trail through the wetland for better access to the specimens. The spur trail continues up a hill to the Willow Pond. On the hillside are planted native herbaceous plants, like bloodroot, hepatica and ferns. These are not staked or labeled but are fun to find on your own. Also fun is the musical bridge located on the spur trail. Any age can play!

Two additions to the collection were recently made. We soon realized we did not have a site where bog plants could thrive, so we created one. We now have two 4x8-foot log enclosures lined with rubber sheets. Log rafts float in the tanks and sphagnum moss has been planted along with most of the bog plants of a typical Adirondack floating bog. The tanks were initially filled with well water and the acidity is still not quite right, but seems to be getting better. Some of the bog plants are thriving.

The second addition was a collection we call "Nan's Ferns". This work-in-progress has some 30 fern species planted on a hillside above the wetland. We don't have limestone at the arboretum so we are missing some species, but have tricked walking fern to accept shale with a liberal dressing of garden lime. Maybe we can do the same for some of the other calciphiles. This addition was inspired by Nan Williams and her interest in ferns and a willingness on her part to take fern pictures to illustrate our recent book on the "Ferns of the Capital Region." She also provided many of the ferns for the collection.

Editor's Note

Ed Miller has recently authored a book on the "Trees and Shrubs of the Capital Region." All of the plants in the book (excluding a few invasives) are located in the collection. Both booklets (Ferns of the Capital Region and Trees and Shrubs of the Capital Region) can be found at <u>www.ecosny.org</u> or through the Arboretum's website – <u>www.landisarboretum.org</u>



The view from the Landis Arboretum.



Notes of Botanical Interest

The New York Flora Association (NYFA) is seeking nominations for The 2014 New York Native **Plant Conservationist Award**. The award is meant to honor a person who has worked towards the conservation of the native flora of New York. To nominate a candidate send the following information to Anna Stalter, chair of the NYFA Native Plant Conservation Committee, at <u>ams15@cornell.edu</u>.

1. Name, address, email, and phone number of nominator and nominee.

2. Why you believe this nominee deserves the award.

3. What the nominee has done to work towards the conservation of the native flora of New York.

Deadline for submissions is March. 31, 2015. The NYFA Native Plant Conservation Committee will determine the winner of the award, which will be announced sometime in early 2015.

Past Recipients: 2013 - Anne Johnson 2012 - Emily DeBolt

The New England Botanical Club (NEBC) recently announced a **free botanical research conference** to celebrate the 120th anniversary of their organization. It is scheduled for June 5 to 7, 2015 at Smith College in Northampton, Massachusetts.

The conference is intended to bring together botanical organization members from the northeastern U.S., students, academics, naturalists, botanical professionals, and interested naturalists. The keynote speaker is Dr. Pamela Diggle, editor of the American Journal of Botany.

The conference, including all meals is free. Anyone interested can submit an abstract for a talk or poster. Deadline for registration and submission of abstracts is April 1, 2015. For more information go to: http://www.rhodora.org/conference2015/

If you have questions send an email to conference@rhodora.org

New York's Invasive Species Regulations Become Effective in March 2015 By Joseph M. McMullen

If you could magically eliminate either: 1) impacts to natural resources from all future development in the state or 2) emerald ash borer and Phragmites, which would you choose? Let's face it, invasive species are the greatest threat we have to native plant and animal populations and communities, recreational opportunities in our natural environment, merchantable natural resources, and in some instances a threat to crops and the transmittal of diseases in humans and livestock.

In an article in last year's newsletter (McMullen 2014), I reviewed New York's proposed invasive species regulations. These regulations were passed and will shortly become effective. The intent of the regulations is to recognize and curtail the spread of invasive species in the state.



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Review of Process and Effective Date

In October 2013, the New York Department of Environmental Conservation (NYSDEC) proposed new Invasive Species Regulations as Part 575 of Title 6 of the NY Code of Rules and Regulations (6NYCRR Part 575). The proposed regulations underwent a public comment period, including four public hearings across the state. With required changes, the regulations were adopted in July 2014, published in the State Register on September 10, 2014, and become effective six months from that date – March 10, 2015.

Prohibited and Regulated Categories in the Regulations

Under the upcoming regulations, there are two categories under which invasive species are listed. These categories are prohibited and regulated.

Prohibited species are those considered to have a clear risk to the state's economy, ecology, and/or human health. As of March 2015, it will be illegal to "knowingly possess with the intent to sell, import, purchase, transport or introduce any prohibited invasive species".

Regulated species are those that have a potential for detrimental effects. You can possess or sell a regulated species, but you cannot introduce it into a "free living state", which is defined as public lands or waters.

Species Listed

Invasive species by definition must be non-native to New York communities. Species listed in the upcoming regulations include animals (terrestrial and aquatic invertebrates and vertebrates), fungi, algae, and vascular plants. The invasive vascular plants listed in the regulations are shown in Table 1. Seventy one species are listed as prohibited and six are listed as regulated.

Grace Period for Japanese Barberry

Japanese barberry (Berberis thunbergii) is an invasive species listed as prohibited. Because it is also a common ornamental sold at nurseries, there is a one-year grace period for this species. Existing stock of Japanese barberry may be sold during the grace period.

Existing Populations of Invasive Species and Permits

Existing populations of listed invasive species are not required to be managed or destroyed. Also, a permit process is established in the regulations for research, education, or other approved activities.

Photographic Report/Species Information

A report showing color photographs of New York's prohibited and regulated invasive species was developed by the NYSDEC and can be viewed at the web site listed below. The report will be helpful to those unfamiliar with the species. However, photographs are only shown for fifty of the seventy one prohibited species. The photographs are listed by common name, which can be a little awkward if you are looking for all the listed honeysuckles (Lonicera spp.) or milfoils (Myriophyllum spp.). Information on all the invasive species, including photographs for many, is included in the NYFA Atlas.

Website for Information

Complete invasive species regulations and additional information can be found at: <u>http://www.dec.ny.gov/animals/265.html</u>. There is a link to the regulations, frequently asked questions, and the photographic report. You can also call the NYSDEC at 518-402-9405.

References

McMullen, J. M. 2014. Plants included in proposed invasive species regulations. NYFA Quarterly Newsletter, Spring 2014, Vol. 25(2): 7-9.



Table 1. Invasive plants listed in the regulations.

ALGAE AND CYANOBACTERIA

Prohibited:

Caulerpa taxifolia, Killer Green Algae *Didymosphenia geminata*, Didymo *Prymnesium parvum*, Golden Algae

Regulated:

Cylindrospermopsis raciborskii, Cylindro Grateloupia turuturu, Red Algae

PLANTS

Prohibited:

Acer pseudoplatanus, Sycamore Maple Achyranthes japonica, Japanese Chaff Flower Alliaria petiolata, Garlic Mustard Ampelopsis brevipedunculata, Porcelain Berry Anthriscus sylvestris, Wild Chervil Aralia elata, Japanese Angelica Tree Artemisia vulgaris, Mugwort Arthraxon hispidus, Small Carpet Grass Berberis thunbergii, Japanese Barberry Brachypodium sylvaticum, Slender False Brome Cabomba caroliniana, Fanwort Cardamine impatiens, Narrowleaf Bittercress Celastrus orbiculatus, Oriental Bittersweet Centaurea stoebe (C. biebersteinii, C. diffusa, C. maculosa misapplied, C. xpsammogena), Spotted Knapweed *Cirsium arvense (C. setosum, C. incanum, Serratula arvensis)*, Canada Thistle Cynanchum louiseae (C. nigrum, Vincetoxicum nigrum), Black Swallow-wort Cynanchum rossicum (C. medium, Vincetoxicum medium, V. rossicum), Pale Swallow-wort Dioscorea polystachya (D. batatas), Chinese Yam Dipsacus laciniatus, Cut-leaf Teasel Egeria densa, Brazilian Waterweed Elaeagnus umbellata, Autumn Olive Euphorbia cyparissias, Cypress Spurge Euphorbia esula, Leafy Spurge Ficaria verna (Ranunculus ficaria), Lesser Celandine Frangula alnus (Rhamnus frangula), Smooth Buckthorn Glyceria maxima, Reed Manna Grass Heracleum mantegazzianum, Giant Hogweed Humulus japonicus, Japanese Hops Hydrilla verticillata, Hydrilla/ Water Thyme Hydrocharis morsus-ranae, European Frogbit Imperata cylindrica (I. arundinacea, Lagurus cylindricus), Cogon Grass Iris pseudacorus, Yellow Iris Lepidium latifolium, Broad-leaved Pepper-grass

Lespedeza cuneata, Chinese Lespedeza Ligustrum obtusifolium, Border Privet Lonicera japonica, Japanese Honeysuckle Lonicera maackii, Amur Honeysuckle Lonicera morrowii, Morrow's Honeysuckle Lonicera tatarica, Tartarian Honeysuckle Lonicera x bella, Fly Honeysuckle Ludwigia hexapetala (L. grandiflora), Uruguayan Primrose Willow Ludwigia peploides, Floating Primrose Willow Lysimachia vulgaris, Garden Loosestrife Lythrum salicaria, Purple Loosestrife Microstegium vimineum, Japanese Stilt Grass Murdannia keisak, Marsh Dewflower Myriophyllum aquaticum, Parrot-feather Myriophyllum heterophyllum, Broadleaf Water-milfoil Myriophyllum heterophyllum x M. laxum, Broadleaf Watermilfoil Hybrid Myriophyllum spicatum, Eurasian Water-milfoil Nymphoides peltata, Yellow Floating Heart Oplismenus hirtellus, Wavyleaf Basketgrass Persicaria perfoliata (Polygonum perfoliatum), Mile-aminute Weed Phellodendron amurense, Amur Cork Tree Phragmites australis, Common Reed Grass Phyllostachys aurea, Golden Bamboo Phyllostachys aureosulcata, Yellow Groove Bamboo Potamogeton crispus, Curly Pondweed Pueraria montana, Kudzu Reynoutria japonica (Fallopia japonica, Polygonum cuspidatum), Japanese Knotweed Reynoutria sachalinensis (Fallopia sachalinensis, Polygonum sachalinensis), Giant Knotweed Reynoutria x bohemica (Fallopia x bohemica, Polygonum x bohemica), Bohemian Knotweed Rhamnus cathartica, Common Buckthorn Rosa multiflora, Multiflora Rose Rubus phoenicolasius, Wineberry Salix atrocinerea, Gray Florist's Willow Silphium perfoliatum, Cup-plant Trapa natans, Water Chestnut Vitex rotundifolia, Beach Vitex

Regulated:

Acer platanoides, Norway Maple Clematis terniflora, Japanese Virgin's Bower Euonymus alatus, Burning Bush Euonymus fortunei, Winter Creeper Miscanthus sinensis, Chinese Silver Grass Robinia pseudoacacia, Black Locust



2014 Additions to the St. Lawrence County Flora

By Anne Johnson

Thanks largely to Steven Daniel, we've continued to add to our list of St. Lawrence County vascular plants; this past year adding another eleven species. Three are non-native species and seven native. The county total now stands at 1402 plant species (including subspecies and varieties). The following were added this year.

Bartram's Shadbush (*Amelanchier bartramiana*). Found growing in a typical Adirondack northern hardwoods habitat – under beech, maple, and birch along the trail to Copper Rock Falls (South Branch of the Grasse River) in the town of Clare. This plant was in leaf only, so we plan on scouring the county next season in appropriate habitats to obtain a nice flowering plant to make a voucher specimen.

MacGregor's Wild-rye (*Elymus macgregorii*). This grass, similar to though larger than the more common *E. virginicus* was found growing with *Bromus ciliatus* and *Dichanthelium clandestinum* under red maple and elms downstream of Lampson Falls (Grasse River) in the town of Clare.

Wiegand's Wild-rye (*Elymus wiegandii*). Another wild-rye found along another river, the West Branch of the Oswegatchie north of NY 58. This brings the total number of Elymus species in the county to eight.

Firewheel (*Gaillardia pulchella*). An Aster family member often found in revegetation wildflower mixes, this was found scattered in a field and on the banks of a stream in the town of Potsdam. A neighbor reported that it came after bridge work in the area. This attractive flower was also found in the town of Brasher on the banks of the Deer River, far from any house or roadwork.

Biennial Beeblossom (*Gaura biennis***).** A tall plant with smallish but attractive flowers, found along an old railroad bed in the town of Lawrence.

Soft Rush (*Juncus pylaei*). The "other" soft rush, identified by its black lower stem sheaths and shorter inflorescence branches.

Vervain Mallow (*Malva alcea*). A showy, tall mallow found growing along and in a roadside ditch in the town of Canton. It was in the vicinity of an abandoned house.

Pennsylvania Pellitory (*Parietaria pensylvanica*). Found in two very different habitats – one growing out of a crack in pavement in a heavily travelled village setting, and the other on a pristine rock face far from habitation.

Large Purple Fringed Orchis (*Platanthera grandiflora*). Found growing in a seep in a northern hardwoods forest along the trail to Copper Rock Falls in the town of Clare.

Greater Round Leaved Orchid (*Platanthera macrophylla*). Growing in the town of Hermon in dry acid, rocky woods in Firefall State Forest under red and sugar maples with *Pteridium aquilinum*, *Uvularia sessilifolia*, *Oryzopsis asperifolia*, *Mitchella repens* and *Aralia nudicaulis*.

Great Plains Lady's-tresses (*Spiranthes magnicamporum*). See the lead story in this newsletter. This additional population was found in a very limey meadow in Massena, growing with *Solidago ptarmicoides*, *Eleocharis elliptica*, and *Gentianopsis crinita*.





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Platanthera grandiflora in St. Lawrence County, photo bySteven Daniel

Answers to the Carex Quiz: A3 (Carex cumulata), B4 (Carex sparganioides), C1 (Carex granularis), D2 (Carex atlantica).





And check out what's On Our Website and Blog Find them at www.nyflora.org and www.nyflog.org



Something to look forward to: Balsam ragwort (Packera paupercula).



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