

## CULTIVATED MONOCOTYLEDONOUS TAXA AT THE NC STATE UNIVERSITY HERBARIUM

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### ABSTRACT

A list of cultivated, monocotyledonous taxa held at the North Carolina State University Herbarium (NCSC) is presented as part of a larger effort to catalogue the holdings of the herbarium. Twenty-nine families, 122 genera, 6 intergeneric hybrids and 181 species of cultivated monocotyledonous vouchers are currently held by the NCSC herbarium. Vouchering of plants at the JC Raulston Arboretum and the NCSU Greenhouse under Hatch Research Project (NCO 6104) in the past 1 ½ years has added 81 new genera (66%) and 112 new species (62%).

Krings (2002) provided a list of cultivated dicotyledonous taxa currently deposited at the North Carolina State University Herbarium (NCSC) as part of a larger effort to catalogue all of the specimen holdings of NCSC. In 2002, Fantz began the task of vouchering the cultivated taxa at the JC Raulston Arboretum (JCRA) and the Greenhouse Conservatory of the Department of Horticultural Science as part of Hatch Research Project (NCO 6104). This substantially increased the number of cultivated monocotyledonous taxa deposited at NCSC. The list of cultivated dicotyledonous taxa was updated by Fantz et al. (2003). The objective is to continue the cataloguing of cultivated plants initiated by Curator Alexander Krings with the addition of monocotyledonous taxa currently held at NCSC.

### METHODS

Plant vouchers were prepared by Fantz following standard taxonomic vouchering procedures. Priority was given to collecting as

many different species as possible and especially those plants in the reproductive state. Lower priority went to multiple cultivars of a species. Vouchering of the plants at the JC Raulston Arboretum began in April 2002. Vouchering of the Greenhouse Conservatory began in November 2002. Collection of duplicate specimens began in June 2002 after the North Carolina State University Herbarium (NCSC) developed an exchange program with the National Arboretum Herbarium (NA).

Labels were prepared for each voucher. Names were checked against Griffiths (1994) for current correct scientific names and authorities. The international plant name index database (IPNI 2003) was consulted for those names lacking in Griffiths (1994). Synonyms were included on plant labels. An alphabetical list of taxa was prepared that included correct scientific names, authorities, synonyms, voucher number, plant state (flowers, fruits, sori, cones) and herbarium of deposit.

A list of arboretum plant vouchers was turned over to Lasseigne, Assistant Director of the JC Raulston Arboretum, whose responsibilities include plant records. He is having the voucher data added to the JC Raulston Arboretum plant records database. A list of greenhouse vouchers was turned over to Diane Mays, Agricultural Research Technician II. She is adding voucher data to the greenhouse plant records database. Added to these are the names of monocotyledonous taxa compiled from existing taxon folders.

### RESULTS

Twenty-nine families, 122 genera, 6 intergeneric hybrids and 181 species of cultivated monocotyledonous vouchers are held currently by the NCSC herbarium. Taxa added in the past 1 ½ years under Hatch Research Project NCO 6104 are designated by an asterisk (\*). This includes 81 new genera (66%) and 112 new species (62%). Table 1 represents the ten largest families based upon the number of subgeneric taxa held at NCSC. Table 2 represents the ten largest

families based upon the number of genera at NCSC. Grasses, orchids and liliaceous taxa (*Liliaceae sensu lato*) dominate the monocotyledonaceous taxa.

TABLE 1. Ten largest families with number of cultivated sub-generic taxa at NCSC.

TABLE 2. Ten largest families with number of cultivated genera at NCSC.

Family	No. sub-generic taxa	Family	No. genera
Poaceae	43	Poaceae	26
Liliaceae, s.l.	40	Liliaceae, s.l.	18
Orchidaceae	36	Orchidaceae	18
Araceae	16	Araceae	10
Amaryllidaceae	15	Amaryllidaceae	8
Iridaceae	13	Arecaceae	7
Aloeaceae	12	Bromeliaceae	5
Alliaceae	11	Agavaceae	5
Arecaceae	10	Hyacinthaceae	5
Hostaceae	9	Iridaceae	4

Verification of scientific names revealed a number of orthographic errors on plant labels and in plant records, use of synonyms, and phantom plants, the latter being plants in the collection but lacking in record databases. Lasseigne and Mays are correcting these errors on new plant labels and in the JC Raulston Arboretum and NCSU Greenhouse databases.

Taxa are arranged below alphabetically by family, genus, species, and subspecific taxa. The number of genera and subgeneric taxa follows family names (e.g., 8/13 indicates 8 genera comprising 13 subgeneric taxa). A scientific name not located in Griffiths nor IPNI is cited as *nomina in schedula* [*nom. in sched.*].

## AGAVACEAE 5/7

### *Agave*\*

*A. treculeana* Carr.\*

### *Cordylina*\*

*C. terminalis* (L.) Kunth\*

### *Dracaena*\*

*D. sp.*\*

### *Sansevieria*\*

*S. sp.*\*

*S. cylindrica* Bojer\*

*S. parva* N.E. Br.\*

### *Yucca*\*

*Y. filamentosa* L. 'Bright Edge'\*

## ALLIACEAE

### [AMARYLLIDACEAE] 4/11

### *Agapanthus*\*

*A. inapertus* Beauverd\*

### *Allium*

*A. carinatum* L.

*A. darwasicum* Reg.

*A. moly* L.\*

*A. nutans* L.

*A. oreophilum* C.A. Mey.

*A. senescens* L.

*A. sphaerocephalum* L.

*A. stellatum* Ker-Gawl\*

### *Artemesia*

*A. ludoviciana* Nutt. 'Valerie Finnis'

### *Tulbaghia*\*

*T. violacea* Harv.\*

## ALOEACEAE

### [LILIACEAE] 4/12

### *Aloe*

*A. sp.*\*

*A. bakeri* Scott-Elliot\*

*A. descoingsii* G. Reynolds\*

*A. humilus* (L.) Mill. var. *echinata* (Willd.) Bak.\*

*A. parvula* A. Berger\*

*A. vera* (L.) Burm.

### *Gasteria*\*

*G. x hybrida* [*nom. in sched.*]\*

### *Haworthia*\*

*H. cooperi* Bak.\*

*H. cymbiformis* (Haw.) Duval\*

### *Kniphofia*\*

*K. sp.*\*

*K. 'Gilt Bronze'*\*

*K. 'Little Candles'*\*

## ALSTROEMERIACEAE

### [LILIACEAE] 1/2

### *Alstroemeria*\*

*A. 'Freedom'*\*

*A. psittacina* Lehan\*

## AMARYLLIDACEAE 8/15

### *Amaryllis*\*

*A. 'Peppermint'*\*

### *Crinum*\*

*C. sp.*\*

*C. bulbispermum* (Burm.) Milne-Redh. & Shweick\*

### *Habranthus*\*

*H. robustus* Herb. ex Sweet 'Russell Manning'\*

*H. tubispathus* (L'Herit.) Traub 'Texanus'\*

### *Hymenocallis*\*

*H. imperialis* T.M. Howard\*

### *Leucojum*

*L. aestivum* L.

**Lycoris\***

*L. radiata* (L'Herit.) Herb. var. *radiata*\*

**Narcissus**

*N. x odorus* L.  
*N. pseudonarcissus* L.\*

**Zephyranthes\***

*Z. atamasca* (L.) Herb.\*  
*Z. candida* (Lindl.) Herb.\*  
*Z. flavissima* Ravenna\*  
*Z. grandiflora* Lindl. 'La Buffa Ro-sea'\*  
*Z. reginae* T.M. Howard & S. Ogden\*

## ARACEAE 10/16

**Aglaonema\***

*A. communtatum* Schott.\*  
*A. crispum* (Pitcher & Manda) Nichols\*

**Amorphophallus\***

*A. sp.*\*

**Anthurium\***

*A. polychistum* Schult. & Idrobo\*  
*A. radicans* K. Koch\*  
*A. schezerianum* Schott.\*

**Arisaema\***

*A. dracontium* (L.) Schott.\*  
*A. heterophyllum* Blume\*  
*A. ringens* (Thunb.) Schott.\*

**Arum\***

*A. italicum* Mill.\*

**Dieffenbachia\***

*D. maculata* (Lodd.) Bunting  
'Jenmannii'\*  
*D. leopoldii* Bull.\*

**Philodendron\***

*P. 'Lynette'*\*

**Pinellia\***

*P. tripartita* (Bl.) Schott.\*

**Spathiphyllum\***

*S. 'Tys Pride'*\*

**Zantedeschia\***

*Z. 'Black Magic'*\*

## ARECACEAE [PALMAE]

7/10

**Butia**

*B. capitata* (Mart.) Becc.

**Chamaedorea\***

*C. cataracterum* Mart.\*  
*C. elegans* Mart.\*  
*C. erumpens* H.E. Moore\*

**Chamaerops**

*C. humilis* L.

**Phoenix**

*P. canariensis* hort. ex Chabaud.

**Rhaphidophyllum**

*R. hystrix* (Pursh) H.A. Wendl. & Drude

**Sabal**

*S. minor* (Jacq.) Pers.  
*S. palmetto* (Walter) Lodd. ex Schult. & Schult. f.

**Trachycarpus**

*T. fortunei* (Hook.) H.A. Wendl.

## ASPARAGACEAE

[LILIACEAE] 1/3

**Asparagus**

*A. pseudoscaber* (Asch. & Grabn.) Grecescu  
*A. setaceus* (Kunth) Jessop  
*A. densiflorus* (Kunth) Jessop  
[Sprengrer Group] 'Sprengreri'

## BROMELIACEAE 5/7

**Aechmea\***

*A. sp.*\*  
*A. fasciata* (Lindl.) Bak.\*

**Cryptanthus\***

*C. pickelii* L.B. Smith\*

**Guzmania\***

*G. lingulata* (L.) Mez.\*

**Tillandsia\***

*T. ionantha* Planch.\*  
*T. tricolor* Schldl. & Cham.\*

**Vriesea\***

*V. x mariae* Andre\*

## COMMELINACEAE 2/5

**Cyanotis\***

*C. kewensis* (Hassk.) C.B. Clarke\*

**Tradescantia**

*T. pallida* (Rose) D. Hunt\*  
*T. pallida* (Rose) D.Hunt 'Purple Heart'\*  
*T. spathacea* Sw.\*  
*T. zebrina* Hort. ex Bosse

## COLCHICACEAE

[LILIACEAE] 1/2

**Disporum\***

*D. flavens* Kitagawa\*  
*D. sessile* (Thunb.) D.Don  
'Variegatum'\*

## CONVALLARIACEAE

[LILIACEAE] 4/8

**Liriope**

*L. graminifolia* (L.) Bak.

**Ophiopogon\***

*O. clarkei* Hook. f.\*

*O. japonicus* (L.f.) Ker-Gawl\*

*O. japonicus* (L.f.) Ker-Gawl 'Nana Variegata'\*

*O. planiscapus* Nak. 'Nigrescens'\*

**Polygonatum\***

*P. humile* Maxim.\*

*P. odoratum* (Mill.) Druce var. *pluriflorum* 'Variegatum'\*

**Rohdea\***

*R. japonica* (Thunb.) Roth\*

## CYPERACEAE 2/3

**Carex\***

*C. conica* Boott. 'Snowline'\*  
*C. phyllocephala* Kogama 'Sparkler'\*

**Schoenoplectus\***

*S. validus* (Vahl) Löve\*

## DIOSCOREACEAE 1/1

**Dioscorea**

*D. alata* L.

## HELICONIACEAE 1/1

**Heliconia\***

*H. psittacorum* L.f.\*

## HEMEROCALLIDACEAE

1/3

**Hemerocallis\***

*H. 'Autumn Daffodil'*\*  
*H. 'Colonel Southall'*\*  
*H. 'Milk Chocolate'*\*

## HYACINTHACEAE

## [LILIACEAE] 5/5

**Camassia\****C. quamash* (Pursh) Greene\***Hyacinthoides\****H. hispanica* (Mill.) Roth.\***Muscari\****M. armeniacum* Bak.\***Ornithogalum\****O. longibracteatum* Jacq.\***Scilla***S. siberica* Haw.

## HOSTACEAE

## [LILIACEAE] 1/10

**Hosta\****H.* 'Blue Angel'\**H.* 'Golden Edger'\**H.* 'Ginkgo Craig'\**H.* 'June'\**H.* 'Sagae'\**H.* 'Stain Glass'\**H.* 'Yellow Splash Rain'*H. nakaiana* (Maek.) Maek.\**H. venusta* Maek.\**H. yingeri* S. Jones

## HYPOXIDACEAE 1/1

**Hypoxis\****H. rooneri* T.Moore\*

## IRIDACEAE 4/13

**Crocasmia\****C. x crocosmiiflora* (Burb. & Dean)  
N.E. Br.\***Gladiolus\****G. papilio* Hook. f.\***Iris***I.* sp.\**I. foetidissima* L.\**I. prismatica* L.\**I. pseudoacorus* L.\**I. sanguinea* Hornem. ex Donn.\**I. sibirica* L.*I. tectorum* Maxim. 'Alba'\***Sisyrinchium\****S.* 'Puerto Yellow'\**S.* 'Quaint and Queer'\**S. bermudianum* L.\**S. striatum* Sm.\*

## JUNCACEAE 1/1

**Luzula\****L. forsteri* DC.\*

## LILIACEAE 2/2

**Disporopsis\****D. fusco-picta* Hance\***Lilium\****L. longiflorum* Thunb.\*

## MARANTACEAE 3/5

**Calathea\****C. lancifolia* Boom\***Ctenanthe\****C. amabilis* (E. Morr.) H.Kenn. &  
Nichols\**C. oppenheimiana* (E. Morr.) Eichl.  
'Tricolor'\***Maranta\****M. bicolor* Ker-Gawl\**M. leuconeura* E. Mott. var. *kerchovi-*  
*ana* E. Mott.\*

## ORCHIDACEAE 19/36

**Bletilla\****B. striata* (Thunb.) Rchb. f.\***Brassavola\****B. nodosa* (L.) Lindl.\***x Brassolaeliocattleya\***x *B.* sp.\*x *B.* [Cloud Forest Group] 'Orange  
Glow'\***Cattleya\****C.* sp. #14\**C.* [Bob Betts Group] 'White Light-  
ning'\**C.* [Hazel Boys Group] 'Red Stove'\**C.* [Viola Sanjume Group] 'Orange  
Blossom'\**C. aurantiaca* (Batem. ex Lindl.) P.N.  
Don 'Lenette'\**C. scintillation* var. *virginia* [nom. in  
sched.]\***Dendrobium\****D.* [Lucky Strikes Group] 'Kathy'\**D.* [Sousa Group] 'Red'\**D.* 'Waimala Beauty'\**D. bigibbum* Lindl.\**D. nobile* Lindl.\***x Dalaelia\***x *D.* hort.\***x Doritaenopsis\***x *D.* [*Doritis* 'Chichi' x *Phalaenopsis*  
'Jack Hoggard']\***x Epicattleya\***x *E.* [Viola Group] 'Katherine'\***Epidendrum\****E. ibaguense* HBK\***Gomesa\****G.* sp.\***Laelia\****L.* Lindl. 'Coronet'\**L. anceps* Lindl. f. *chilapensis* M.A.  
Soto Arenas var. *oaxaguena* 'Alba'  
[Varietas nom. in sched.]\***x Laeliocattleya\***x *L.* sp. #4\***Miltonia\****M.* 'Guanavara' x *Miltonia* 'Ann  
Ware'\***Mormolyca\****M. ringens* (Lindl.) Schltr.\***Oncidium\****O. splendidum* A. Rich. ex Duchar-  
tre\***Paphiopedilum\****P.* sp.\**P. venustum* (Wall.) Pfitz. ex Stein  
'Noyo' x *P. fairrieatum* (Lindl.)  
Stein. 'Noyo Red'\***Phaius\****P.* sp.\***Phalaenopsis\****P.* sp.\**P.* #1910\**P.* 'Sandra Livingston'\**P.* 'Yolando Scott' x *P.* 'Carnival  
Queen'\**P. formosana*\**P. stuartiana* Korth. & Rchb. f.  
'Dreamer' x self\***x Sophrolaeliocattleya\****S.* 'Barefoot Mailman' x (*L. briegeii*  
x *S.* 'Madge')\*

## POACEAE [GRAMINAE]

## 26/43

**Agrostis***A. castellana* Boiss. & Reut. var. *mu-*  
*tica* (Boiss. & Reuter) Kerguelen  
ex A.T. Romero Garcia, G. Blanco

Lopez &amp; C. Morales Torres

**Andropogon***A. saccharoides* Sweet**Arundo***A. donax* L.**Bambusa\****B. sp.\****Bromus***B. ciliatus* L. var. *richardsonii* (Link)

B. Boivin

**Cenchrus***C. ciliaris* L.**Eragrostis***E. campestris* Trin.\**E. geveeri* Steud.*E. nebulosa* Stapf.**Leymus\****L. arenarius* (L.) Hochst.\**L. arenarius* (L.) Hitchc. 'Blue

Dune'\*

**Miscanthus***M. sacchariflorus* (Maxim.) Hackel*M. transmorrisonensis* Hayata**Molinia***M. caerulea* (L.) Moench.**Muhlenbergia***M. metcalfei* M.E. Jones**Nassella***N. tenuissima* (Trin.) Barkworth*N. trichotoma* (Nees) Hackel ex Arechav.**Oryza***O. sativa* L.**Panicum***P. miliaceum* L.*P. virgatum* L.**Paspalum***P. alnum* Chase*P. conjugatum* Berg.*P. urvillei* Steud.**Pennisetum***P. alopecuroides* (L.) Spreng. 'Little Harry'\**P. orientale* Rich.*P. villosum* R.Br. ex Fries**Phalaris***P. canariensis* L.**Phyllostachys***P. viridiglaucescens* (Carr.) A. & C. Riv.**Poa***P. nemoralis* L.**Schizachryium***S. scoparium* (Michx.) Nash var. *scoparium***Setaria***S. glauca* (L.) Palib.*S. scheelei* (Steud.) Hitch.**Sporobolus***S. fimbriatus* Nees**Tricuspis***T. latifolia* Griseb.**Tripsacum***T. australe* Cutler & E. Anderson*T. dactyloides* (L.) L.*T. floridanum* Porter ex Vasey*T. pilosum* Scribn. & Merrill*T. x Zea mays* L.**Triticum***T. discocoides* var. *spontanonigrum* [nom. in sched.]*T. vulgare* Vill.**Zea***Z. luxurians* (Durieu) R.M. Bird*Z. mays* L.

## RUSCACEAE

## [LILIACEAE] 2/2

**Danae\****D. racemosa* (L.) Moench.\***Ruscus***R. aculeatus* L.

## STRELITZIACEAE 1/1

**Strelitzia\****S. nicolai* Reg. & Korn.\*

## TACCACEAE\* 1/1

**Tacca\****T. chantrieri* Andre\*

## TRICYRTIDACEAE

## [LILIACEAE] 1/1

**Tricyrtis\****T. formosana* Bak.\*

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#### LITERATURE CITED

- DAHLGREN, R.M.T. and H.T. CLIFFORD. 1982. The Monocotyledons: A comparative study. Academic Press, London.
- DAHLGREN, R.M.T., H.T. CLIFFORD, and P.F. YEO. 1985. The families of the Monocotyledons: Structure, evolution and taxonomy. Springer-Verlag, New York.
- FANTZ, P.R., F.T. LASSEIGNE, and D. MAYS. 2003. Cultivated dicotyledonous taxa at the NC State University Herbarium II: additions to the collections in 2002. Vulpia 2:81-93.
- GRIFFITHS, M. 1994. Index of garden plants. Timber Press, Portland.
- IPNI. 2003. International Plant Name Index Query, The Royal Botanical Gardens, Kew. [[http://www.ipni.org/ipni/query\\_ipni.html](http://www.ipni.org/ipni/query_ipni.html)]
- KRINGS, A. 2002. Cultivated dicotyledonous taxa at the NC State University Herbarium. Vulpia 1:133-156.