

1997

## Floristic Survey and Annotated Checklist of the Pine Bluff Arsenal

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### Recommended Citation

Walker, Stephen A. and Campbell, Julian (1997) "Floristic Survey and Annotated Checklist of the Pine Bluff Arsenal," *Journal of the Arkansas Academy of Science*: Vol. 51 , Article 28.

Available at: <http://scholarworks.uark.edu/jaas/vol51/iss1/28>

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# A Floristic Survey And Annotated Checklist of The Pine Bluff Arsenal

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## Abstract

We conducted a floristic survey of the Pine Bluff Arsenal during the spring, summer, and fall of 1996. In total, 622 taxa representing 113 families and 351 genera were identified and compiled into an annotated checklist. The largest families were Asteraceae (79 genera), Poaceae (73 genera), Fabaceae (41 genera), and Cyperaceae (38 genera). Exotic species composed only 8.5% of the flora. Fifty-five of the specimens represent new records for Jefferson County.

## Introduction

The Arkansas Field Office of The Nature Conservancy was contracted to compile an annotated floral checklist and conduct a threatened and endangered plant species and natural areas inventory of the U. S. Army Pine Bluff Arsenal (PBA) in Jefferson County, Arkansas. PBA is located on the west bank of the Arkansas River. It is approximately 51.6 km southeast of Little Rock, AR and 4.8 km northwest of Pine Bluff, AR. Currently the arsenal covers 6050.2 ha with 4392.7 ha in forest. The remaining acres consist of lawns, buildings, roads, railroads, lakes and streams, wildlife food plots, and open fields (Becker, 1992). Most of PBA lies within the West Gulf Coastal Plain physiographic province. However, a small portion, the Arkansas River floodplain around Yellow Lake and Eastwood Bayou, lies within the Mississippi Alluvial Plain physiographic province.

The arsenal topography is generally flat with poor drainage. The northernmost portion is characterized by rolling hills and numerous streams. The area within the Mississippi Alluvial Plain physiographic region is about 13.7 meters lower in elevation than the rest of the arsenal. Drainage is generally toward the Arkansas River. Topographic elevations range between 59.6 to 103.7 meters above mean sea level (msl) sloping west to east with the normal pool of the Arkansas River, which flows just to the east of PBA, positioned at about 59.6 meters above msl. Adjacent to the Arkansas River, elevations increase abruptly at the existing bluffline to about 73.2 meters above msl. Slopes increase more gradually westward toward the maximum elevation in the northwest corner of the arsenal (Bennett et al., 1990).

The area in and around PBA has been subjected to a large amount of disturbance. Before the establishment of PBA in 1941, a large portion of the area was used for agricultural purposes (Bennett et al., 1990). When PBA was established, activities included loading incendiary bombs,

manufacture of war gases, filling of bombs with chemicals, incendiary and smoke munitions, chemical agents and chemical filled munitions, and storage of these munitions (Becker, 1992).

Current activities at PBA include the manufacture of incendiary and smoke munitions and storage of these, chemical agents and toxic compounds. Timber management includes selective cutting of timber in prescribed areas. Recreational activities such as hunting and fishing also occur at PBA. Lakes and ponds are manipulated to improve fishing and wildlife plots have been established to improve hunting (Becker, 1992).

## Materials and Methods

Weekly collections were made during spring, summer, and fall seasons of 1996. The entire arsenal, with the exception of the small area where chemical agents are stored, was surveyed.

Plants which could not be identified in the field were collected, pressed, dried, and stored for identification through use of taxonomic keys, particularly Smith (1994). Specimens of difficult to identify groups were sent to specialists and/or compared to herbarium collections. Philip E. Hyatt assisted with *Carex*, and Dr. Edwin Smith and George P. Johnson confirmed various specimens.

All collected specimens were sent to either the University of Arkansas herbarium in Fayetteville, Arkansas; Arkansas Tech University herbarium; or were kept at the office of The Nature Conservancy, Little Rock, Arkansas.

Plant nomenclature follows Smith (1994). The determination of a plant being exotic was made primarily by using Gleason and Cronquist (1991), but Godfrey and Wooten (1979) and Burns and Honkala (1990) were also used. County records were determined by using Smith (1988) and by sending specimens to Dr. Edwin B. Smith,

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University of Arkansas, Fayetteville.

### Results

We have compiled a checklist of 622 taxa representing 113 families and 351 genera. The largest families were Asteraceae (79 genera), Poaceae (73 genera), Fabaceae (41 genera), and Cyperaceae (38 genera). The largest genera were *Carex* (15 taxa), *Panicum* (15 taxa), *Quercus* (12 taxa), *Juncus* (11 taxa), *Eupatorium* (9 taxa), *Solidago* (8 taxa), and *Ludwigia* (8 taxa). Fifty-five of the taxa represent new records for Jefferson County. Interestingly, even though PBA has been subjected to a large amount of disturbance, only 8.5% of the flora (53 taxa) was composed of exotics.

No federally listed threatened or endangered plant species were located at PBA. However, seven species listed by the Arkansas Natural Heritage Commission as plants of special concern were found. They were *Carex atlantica* subsp. *capillacea*, *Chamaelirium luteum*, *Eleocharis flavescens*, *Eleocharis microcarpa*, *Eupatorium hyssopifolium* var. *hyssopifolium*, and *Scleria pauciflora*.

### Annotated Checklist

The checklist is arranged alphabetically according to family, genus, species, subspecies, and/or variety. Family concepts follow Cronquist (1988) and nomenclature follows Smith (1994). Entries have the following format: taxon name, author, if the taxa represents a new county record for Jefferson County (R), and if it is an exotic (E).

#### Acanthaceae

*Justicia ovata* (Walt.) Lindau var. *lanceolata* (Chapm.) R. W. Long  
*Ruellia humilis* Nutt. var. *humilis*

#### Aceraceae

*Acer negundo* L.  
*Acer rubrum* L. var. *drummodi* (H & A) Sarg.  
*Acer rubrum* L. var. *rubrum*  
*Acer saccharinum* L.

#### Alismataceae

*Alisma subcordatum* Raf. ;(R)  
*Echinodorus cordifolius* (L.) Griseb.  
*Sagittaria montevidensis* Cham. & Schul. subsp. *calycina* (Engelm.) Bogin

#### Amaranthaceae

*Alternanthera philoxeroides* (Mart.) Griseb. ;(E)  
*Amaranthus rudis* Sauer

#### Amaryllidaceae

*Agave virginica* L.  
*Hymenocallis liriosme* (Raf.) Shinnors

#### Anacardiaceae

*Rhus copallina* L.  
*Rhus glabra* L.  
*Toxicodendron radicans* (L.) Kuntze

#### Annonaceae

*Asimina triloba* (L.) Dunal

#### Apiaceae

*Chaerophyllum procumbens* (L.) Crantz. var. *procumbens* ;(R)  
*Cicuta maculata* L.  
*Daucus pusillus* Michx.  
*Eryngium prostratum* Nutt.  
*Eryngium yuccifolium* Michx.  
*Hydrocotyle ranunculoides* L. f.  
*Ptilimnium nuttallii* (DC.) Britt.  
*Sanicula canadensis* L.  
*Spermolepis divaricata* (Walt.) Britt.  
*Trepocarpus aethusae* Nutt.

#### Apocynaceae

*Apocynum cannabinum* L.  
*Trachelospermum difforme* (Walt.) Gray

#### Aquifoliaceae

*Ilex decidua* Walt.  
*Ilex opaca* Ait.

#### Araceae

*Arisaema dracontium* (L.) Schott

#### Araliaceae

*Aralia spinosa* L.  
*Hedera helix* L. ;(E)

#### Aristolochiaceae

*Aristolochia serpentaria* L.  
*Aristolochia tomentosa* Sims ;(R)

#### Asclepiadaceae

*Asclepias longifolia* Michx. subsp. *hirtella* (Pennell) Farmer & Bell  
*Asclepias tuberosa* L.  
*Gonolobus gonocarpos* (Walt.) Perry

#### Asteraceae

*Ambrosia artemisifolia* L.  
*Ambrosia trifida* L.  
*Aster lanceolatus* Willd.  
*Aster lateriflorus* (L.) Britt.

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- Aster paludosus* Ait. subsp. *hemisphericus* (Alex.) Cronq.  
*Aster umbellatus* Mill.  
*Baccharis halimifolia* L.  
*Bidens aristosa* (Michx.) Britt.  
*Bidens discoidea* (T. & G.) Britt.  
*Bidens laevis* (L.) BSP. ;(R)  
*Boltonia diffusa* Ell.  
*Chrysopsis pilosa* Nutt.  
*Cirsium altissimum* (L.) Spreng.  
*Cirsium carolinianum* (Walt.) Fern.  
*Conyza canadensis* (L.) Cron. var. *canadensis*  
*Coreopsis lanceolata* L.  
*Coreopsis tinctoria* Nutt. var. *tinctoria*  
*Coreopsis tripteris* L.  
*Croptilon divaricatum* (Nutt.) Raf.  
*Echinacea pallida* (Nutt.) Nutt.  
*Eclipta prostrata* (L.) L.  
*Elephantopus carolinianus* Raeusch.  
*Elephantopus tomentosa* L.  
*Erechtites hieraciifolia* (L.) Raf. ex DC. var. *hieraciifolia*  
*Erigeron philadelphicus* L.  
*Erigeron strigosus* Muhl. ex Willd.  
*Erigeron tenuis* T. & G.  
*Eupatorium album* L.  
*Eupatorium capillifolium* (Lam.) Small  
*Eupatorium coelestinum* L.  
*Eupatorium hyssopifolium* L. var. *hyssopifolium*  
*Eupatorium perfoliatum* L. var. *perfoliatum*  
*Eupatorium rotundifolium* L.  
*Eupatorium semiserratum* DC.  
*Eupatorium serotinum* Michx.  
*Euthamia leptcephala* (T. & G.) Greene  
*Gnaphalium purpureum* L. var. *purpureum*  
*Helianthus angustifolius* L.  
*Helianthus hirsutus* Raf.  
*Helianthus mollis* Lam.  
*Helenium amarum* (Raf.) Rock  
*Helenium flexuosum* Raf.  
*Heterotheca graminifolia* (Michx.) Shinnery  
*Hieracium gronovii* L.  
*Krigia cespitosa* (Raf.) K. L. Chambers  
*Krigia dandelion* (L.) Nutt.  
*Krigia virginica* (L.) Willd.  
*Lactuca canadensis* L.  
*Lactuca floridana* (L.) Gaertn. var. *floridana*  
*Liatris aspera* Michx.  
*Liatris pycnostachya* Michx.  
*Liatris squarrosa* (L.) Michx. var. *hirsuta* (Rydb.) Gaiser  
*Mikania scandens* Willd.  
*Pluchea camphorata* (L.) DC.  
*Pluchea foetida* (L.) DC. ;(R)  
*Polymnia uralia* (L.) L.  
*Prenanthes altissima* L.  
*Pyrrhopappus carolinianus* (Walt.) DC
- Rudbeckia grandiflora* (Sweet) DC. var. *alismaefolia* (T. & G.) Cronq.  
*Rudbeckia hirta* L.  
*Senecio glabellus* Poir.  
*Senecio tomentosus* Michx.  
*Silphium integrifolium* Michx.  
*Solidago canadensis* L.  
*Solidago hispida* Muhl. ex Willd.  
*Solidago nemoralis* Ait.  
*Solidago odora* Ait.  
*Solidago petiolaris* Ait.  
*Solidago radula* Nutt.  
*Solidago rugosa* Mill.  
*Solidago ulmifolia* Muhl. var. *palmeri* Cronq. ,(R)  
*Sonchus asper* (L.) Hill ;(E)  
*Taraxacum officinale* Wiggers ;(E)  
*Verbesina helianthoides* Michx.  
*Vernonia missurica* Raf.  
*Vernonia missurica* x *texana*  
*Vernonia texana* (Gray) Small  
*Xanthium strumarium* L.
- Azollaceae  
*Azolla mexicana* Presl
- Balsaminaceae  
*Impatiens capensis* Meerb.
- Berberidaceae  
*Podophyllum peltatum* L.
- Betulaceae  
*Alnus serrulata* (Ait.) Willd.  
*Betula nigra* L.  
*Carpinus caroliniana* Walt.  
*Corylus americana* Walt.  
*Ostrya virginiana* (P. Mill.) K. Koch
- Bignoniaceae  
*Bignonia capreolata* L.  
*Campsis radicans* (L.) Seem.  
*Catalpa speciosa* Warder
- Boraginaceae  
*Cynoglossum virginiana* L.  
*Heliotropium indicum* L. ;(R);(E)  
*Myosotis verna* Nutt.
- Brassicaceae  
*Cardamine hirsuta* L.  
*Cardamine pennsylvanica* Muhl. ex Willd.  
*Descurainia pinnata* (Walt.) Britt.  
*Erysimum repandum* L. ;(R);(E)  
*Lepidium virginicum* L. var. *medium* (Greene) Hitchc. ;(R)

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- Lepidium virginicum* L. var. *virginicum*  
*Rorippa palustris* (L.) Besser subsp. *fernaldiana* (Butt. & Abbe) Jonsell  
*Sibara virginica* (L.) Rollins
- Callitrichaceae  
*Callitriche heterophylla* Pursh emend. Darby var. *heterophylla* ;(R)
- Campanulaceae  
*Lobelia appendiculata* A. DC.  
*Lobelia cardinalis* L.  
*Lobelia puberula* Michx.  
*Lobelia spicata* Lam.
- Caprifoliaceae  
*Lonicera japonica* Thunb. ;(E)  
*Lonicera sempervirens* Ait.  
*Sambucus canadensis* L.  
*Viburnum rufidulum* Raf.
- Caryophyllaceae  
*Cerastium glomeratum* Thuill. ;(E)  
*Cerastium vulgatum* L. ;(E)  
*Sagina decumbens* (Ell.) T. & G.  
*Scleranthus annuus* L. ;(E)  
*Stellaria media* (L.) Villars ;(E)
- Celastraceae  
*Euonymus americanus* L.
- Ceratophyllaceae  
*Ceratophyllum demersum* L.
- Cistaceae  
*Lechea mucronata* Raf.  
*Lechea tenuifolia* Michx.
- Commelinaceae  
*Commelina communis* L. var. *communis* ;(E)  
*Commelina diffusa* Burm. F. ;(E)  
*Commelina virginica* L.  
*Tradescantia hirsutiflora* Bush  
*Tradescantia occidentalis* (Britt.) Smyth
- Convolvulaceae  
*Cuscuta pentagona* Engelm.  
*Ipomoea pandurata* (L.) Mey.
- Cornaceae  
*Cornus drummondii* Meyer  
*Cornus florida* L.  
*Cornus foemina* P. Mill. subsp. *foemina*
- Cupressaceae  
*Juniperus virginiana* L.
- Cucurbitaceae  
*Melothria pendula* L.
- Cyperaceae  
*Carex atlantica* Bailey subsp. *capillaceae* (Bailey) Reznicek ;(R)  
*Carex annectens* Bickn. var. *annectens*  
*Carex complanata* Torr. & Hook.  
*Carex crinita* Lam. ;(R)  
*Carex crus-corvi* Shuttlew. ex Kuntze  
*Carex debilis* Michx. var. *pubera* Gray ;(R)  
*Carex flaccosperma* Dewey  
*Carex frankii* Kunth  
*Carex hyalinolepis* Steud.  
*Carex intumescens* Rudge  
*Carex jorii* Bailey ;(R)  
*Carex louisianica* Bailey  
*Carex lupulina* Willd.  
*Carex tribuloides* Wahlenb.  
*Carex typhina* Michx. ;(R)  
*Cyperus echinatus* (L.) Wood  
*Cyperus erythrorhizos* Muhl.  
*Cyperus esculentus* L.  
*Cyperus flavescens* L. var. *poiformis* (Pursh) Fern.  
*Cyperus pseudovegetus* Steud. var. *pseudovegetus*  
*Cyperus strigosus* L.  
*Eleocharis flavescens* (Poir.) Urban ;(R)  
*Eleocharis lanceolata* Fern. ;(R)  
*Eleocharis microcarpa* Torr. ;(R)  
*Eleocharis obtusa* (Willd.) Schultes  
*Eleocharis quadrangulata* (Michx.) R. & S. ;(R)  
*Fimbristylis autumnalis* (L.) R. & S.  
*Fimbristylis miliacea* Vahl. ;(R)  
*Rhynchospora corniculata* (Lam.) Gray  
*Rhynchospora globularis* (Chapm.) Small  
*Rhynchospora glomerata* (L.) Vahl.  
*Scirpus cyperinus* (L.) Kunth  
*Scirpus koilolepis* (Steud.) Gl.  
*Scirpus pungens* Vahl.  
*Scleria ciliata* Michx. var. *ciliata* ;(R)  
*Scleria oligantha* Michx. ;(R)  
*Scleria pauciflora* Muhl. ex Willd. ;(R)  
*Websteria confervoides* (Poir.) Hooper ;(R)
- Dioscoreaceae  
*Dioscorea quaternata* J. F. Gmel.
- Droseraceae  
*Drosera brevifolia* Pursh
- Ebenaceae



*Diospyros virginiana* L.

## Ericaceae

*Lyonia ligustrina* (L.) DC.  
*Lyonia mariana* (L.) D. Don  
*Rhododendron viscosum* (L.) Torr.  
*Vaccinium arboreum* Marsh.  
*Vaccinium elliottii* Chapm.  
*Vaccinium fuscatum* Ait.  
*Vaccinium pallidum* Ait.  
*Vaccinium virgatum* Ait.

## Euphorbiaceae

*Acalypha gracilens* Gray var. *gracilens*  
*Acalypha rhomboidea* Raf.  
*Acalypha virginica* L.  
*Croton capitatus* Michx.  
*Croton glandulosus* L. var. *septentrionalis* Muell. Arg.  
*Crotonopsis elliptica* Willd.  
*Euphorbia corollata* L.  
*Euphorbia maculata* L.  
*Euphorbia serpens* H. B. K.  
*Euphorbia spathulata* Lam.

## Fabaceae

*Albizia julibrissin* Durazz ;(E)  
*Amorpha fruticosa* L.  
*Amphicarpaea bracteata* (L.) Fern. var. *bracteata*  
*Apios americana* Medic.  
*Baptisia alba* (L.) Vent. var. *macrophylla* (Larisey) Isely  
*Centrosema virginianum* (L.) Benth.  
*Cercis canadensis* L.  
*Chamaecrista fasciculata* (Michx.) Greene  
*Chamaecrista nictitans* (L.) Moench var. *nictitans*  
*Crotalaria sagittalis* L.  
*Desmanthus illinoensis* (Michx.) MacM. ex Rob. & Fern.  
*Desmodium ciliare* (Muhl. ex Willd.) DC.  
*Desmodium paniculatum* (L.) DC. var. *dillenii* (Darl.) Isely  
*Desmodium paniculatum* (L.) DC. var. *paniculatum*  
*Desmodium pauciflorum* (Nutt.) DC. ;(R)  
*Desmodium viridiflorum* (L.) DC. ;(R)  
*Galactia mohlenbrockii* Maxwell  
*Gleditsia triacanthos* L.  
*Gymnocladus dioica* (L.) Koch  
*Lespedeza capitata* Michx.  
*Lespedeza cuneata* (Dumont) G. Don. ;(E)  
*Lespedeza hirta* (L.) Hornem. var. *hirta*  
*Lespedeza intermedia* (L.) Britt. ;(R)  
*Lespedeza repens* (L.) Bart.  
*Lespedeza striata* (Thunb.) H. & A. ;(E)  
*Lespedeza virginica* (L.) Britt.  
*Medicago lupulina* L. ;(E)  
*Potentilla simplex* Michx.  
*Psoralea psoraloides* (Walt.) Cory var. *eglandulosa* (Ell.)

## Freeman

*Rhynchosia latifolia* Nutt. ex T. & G.  
*Robinia pseudo-acacia* L.  
*Senna marilandica* (L.) Link  
*Sesbania macrocarpa* Muhl.  
*Strophostyles helvula* (L.) Ell.  
*Strophostyles leiosperma* (T. & G.) Piper  
*Tephrosia onobrychoides* Nutt.  
*Tephrosia virginiana* (L.) Pers.  
*Trifolium repens* L. ;(E)  
*Trifolium resupinatum* L. ;(E)  
*Wisteria frutescens* (L.) Poir.  
*Vicia sativa* L. ;(E)

## Fagaceae

*Castanea pumila* (L.) Mill. var. *pumila*  
*Fagus grandifolia* Ehrh.  
*Quercus alba* L.  
*Quercus falcata* Michx. var. *falcata*  
*Quercus falcata* Michx. var. *pagodifolia* Ell.  
*Quercus lyrata* Walt.  
*Quercus marilandica* Muench.  
*Quercus michauxii* Nutt.  
*Quercus nigra* L.  
*Quercus phellos* L.  
*Quercus shumardii* Buckl.  
*Quercus stellata* Wang. var. *paludosa* Sarg.  
*Quercus stellata* Wang. var. *stellata*  
*Quercus velutina* Lam.

## Geraniaceae

*Geranium carolinianum* L.  
*Geranium dissectum* L. ;(E)

## Hamamelidaceae

*Hamamelis virginiana* L.  
*Liquidambar styraciflua* L.

## Hippocastanaceae

*Aesculus pavia* L.

## Hydrocharitaceae

*Limnobium spongia* (Bosc.) Steud.

## Hydrophyllaceae

*Hydrolea uniflora* Raf.

## Hypericaceae

*Hypericum densiflorum* Pursh var. *lobocarpum* (Gatt.) Svenson  
*Hypericum drummondii* (Grev. & Hook.) T. & G.  
*Hypericum gentianoides* (L.) B. S. P. ;(R)  
*Hypericum hypericoides* (L.) Crantz.  
*Hypericum mutilum* L.  
*Hypericum stans* (Michx.) Adams & Robson

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*Triadenum walteri* (Gmel.) Gl.

## Iridaceae

*Iris cristata* Ait.

*Sisyrinchium angustifolium* P. Mill.

*Sisyrinchium langloisii* Greene

*Sisyrinchium rosulatum* Bickn.

## Juglandaceae

*Carya cordiformis* (Wang.) K. Koch

*Carya illinoensis* (Wang.) K. Koch

*Carya laciniosa* (Michx. f.) Loud. ;(R)

*Carya texana* Buckl.

*Carya tomentosa* (Poir.) Nutt.

*Juglans nigra* L.

## Juncaceae

*Juncus acuminatus* Michx.

*Juncus brachycarpus* Engelm.

*Juncus coriaceus* Mack. ;(R)

*Juncus diffusissimus* Buckl.

*Juncus effusus* L.

*Juncus marginatus* Rostk.

*Juncus nodatus* Coville

*Juncus repens* Michx. ;(R)

*Juncus scirpoides* Lam.

*Juncus tenuis* Willd.

*Juncus validus* Coville

*Luzula echinata* (Small) Herm. ;(R)

## Lamiaceae

*Cunila origanoides* (L.) Britt.

*Hedeoma hispidum* Pursh

*Lamium amplexicaule* L.

*Lamium purpureum* L.

*Lycopus virginicus* L.

*Monarda fistulosa* L.

*Monarda punctata* L.

*Perilla frutescens* (L.) Britt. ;(E)

*Prunella vulgaris* L.

*Pycnanthemum albescens* T. & G.

*Pycnanthemum muticum* (Michx.) Pers.

*Pycnanthemum pilosum* Nutt. ;(R)

*Pycnanthemum tenuifolium* Schrad.

*Salvia lyrata* L.

*Scutellaria integrifolia* L.

*Stachys tenuifolia* Willd. var. *tenuifolia*

*Teucrium canadense* L.

## Lauraceae

*Lindera benzoin* (L.) Blume

*Sassafras albidum* (Nutt.) Nees

## Lemnaceae

*Lemna obscura* (Austin) Daubs

*Spirodela polyrhiza* (L.) Schleid.

*Spirodela punctata* (G. F. W. Meyer) Thompson ;(E)

*Wolffia brasiliensis* Weddell

## Lentibulariaceae

*Utricularia gibba* L.

*Utricularia radiata* Small ;(R)

## Liliaceae

*Aletris farinosa* L.

*Allium canadense* L.

*Allium vineale* L. ;(E)

*Chamaelirium luteum* (L.) Gray

*Hemerocallis fulva* L. ;(E)

*Maianthemum paniculatum* (Mart. & Gal.) Lafr.

*Polygonatum biflorum* (Walt.) Ell. ;(R)

*Smilax bona-nox* L.

*Smilax glauca* Walt.

*Smilax rotundifolia* L.

*Smilax smallii* Morong

*Trillium recurvatum* Beck

*Uvularia sessilifolia* L.

## Linaceae

*Linum medium* (Planch.) Britt. var. *texanum* (Planch.) Fern.

## Loganiaceae

*Gelsemium sempervirens* (L.) Jaume St.-Hil.

## Loranthaceae

*Phoradendron serotinum* (Raf.) Johnston

## Lycopodiaceae

*Lycopodium appressum* (Chapm.) Lloyd & Underw. ;(R)

## Lythraceae

*Ammannia x coccinea* Rottb.

*Lythrum alatum* Pursh. var. *lanceolatum* (Ell.) T. & G. ex

Rothrock

*Rotala ramosior* (L.) Koehne

## Magnoliaceae

*Magnolia grandiflora* L. ;(E)

## Malvaceae

*Hibiscus laevis* Allioni

*Hibiscus lasiocarpus* Cav.

*Sida spinosa* L.

## Melastomataceae

*Rhexia mariana* L. var. *mariana*

*Rhexia virginica* L.

## Meliaceae

*Melia azedarach* L. ;(E)

## Menispermaceae

*Cocculus carolinus* (L.) DC.

## Moraceae

*Morus rubra* L.

## Myricaceae

*Myrica cerifera* L.

## Najadaceae

*Najas guadalupensis* (Spreng.) Magnus ;(R)*Potamogeton diversifolius* Raf.*Potamogeton pusillus* L. ;(R)

## Nymphaeaceae

*Brasenia schreberi* J. F. Gmel.*Nelumbo lutea* (Willd.) Pers.

## Nyssaceae

*Nyssa sylvatica* Marsh. var. *sylvatica*

## Oleaceae

*Chionanthus virginicus* L.*Forestiera acuminata* (Michx.) Poir.*Fraxinus americana* L.*Fraxinus pennsylvanica* Marsh.*Ligustrum sinense* Lour. ;(E)

## Onagraceae

*Ludwigia alternifolia* L.*Ludwigia decurrens* Walt.*Ludwigia glandulosa* Walt.*Ludwigia hirtella* Raf.*Ludwigia leptocarpa* (Nutt.) Hara*Ludwigia linearis* Walt.*Ludwigia palustris* (L.) Ell. ;(R)*Ludwigia peploides* (H. B. K.) Raven subsp. *glabrescens* (Kuntze) Raven*Oenothera lanciniata* Hill. var. *lanciniata**Oenothera linifolia* Nutt.*Oenothera speciosa* Nutt.*Oenothera villosa* Thunb.

## Ophioglossaceae

*Botrychium dissectum* Spreng. var. *obliquum* Muhl.*Botrychium virginianum* (L.) Sw.*Ophioglossum vulgatum* L. var. *pycnostichum* Fern.

## Orchidaceae

*Isotria verticillata* (Muhl. ex Willd.) Raf.*Listera australis* Lindley*Plantanthera ciliaris* (L.) Lindley*Spiranthes lacera* (Raf.) Raf. var. *gracilis* (Bigelow) Luer ;(R)*Spiranthes vernalis* Engelm. & Gray*Tipularia discolor* (Pursh) Nutt.

## Osmundaceae

*Osmunda cinnamomea* L.*Osmunda regalis* L. var. *spectabilis* (Willd.) Gray

## Oxalidaceae

*Oxalis dillenii* Jacq.*Oxalis violacea* L.

## Passifloraceae

*Passiflora incarnata* L.*Passiflora lutea* L.

## Phrymaceae

*Phryma leptostachya* L.

## Phytolaccaceae

*Phytolacca americana* L.

## Pinaceae

*Pinus echinata* Mill.*Pinus taeda* L.

## Plantaginaceae

*Plantago lanceolata* L. ;(E)*Plantago virginica* L.

## Platanaceae

*Platanus occidentalis* L.

## Poaceae

*Agrostis elliotiana* Schultes ;(R)*Agrostis hiemalis* (Walt.) B. S. P.*Agrostis perennans* (Walt.) Tuckerm.*Aira elegans* Willd. ex Gaudin ;(E)*Andropogon gerardii* Vitman*Andropogon glomeratus* (Walt.) B. S. P.*Andropogon scoparius* Michx.*Andropogon virginicus* L. var. *virginicus**Aristida longisoica* Poir.*Aristida oligantha* Michx.*Aristida purpurascens* Poir.*Arundinaria gigantea* (Walt.) Muhl.*Brachyelytrum erectum* (Schreb.) Beauv. ;(R)*Bromus secalinus* L. ;(E)*Cenchrus incertus* M. A. Curtis*Chasmanthium latifolium* (Michx.) Yates*Chasmanthium laxum* (L.) Yates*Chasmanthium sessiliflorum* (Poir.) Yates*Cynodon dactylon* (L.) Pers. ;(E)



## A Floristic Survey And Annotated Checklist of The Pine Bluff Arsenal

- Digitaria ciliaris* (Retz.) Koel.  
*Digitaria ischaemum* (Schreb. ex Schweigg.) Schreb. ex Muhl. ;(E)  
*Echinochloa crusgalli* (L.) Beauv. ;(E)  
*Echinochloa muricata* (Beauv.) Fern.  
*Elymus virginicus* L.  
*Eragrostis hirsuta* (Michx.) Nees  
*Eragrostis pectinacea* (Michx.) Nees  
*Eragrostis pilosa* (L.) Beauv.  
*Eragrostis spectabilis* (Pursh) Steud.  
*Erianthus contortus* Ell.  
*Erianthus strictus* Baldw. ;(R)  
*Festuca arundinacea* Schreb. ;(E)  
*Glyceria septentrionalis* Hitch. var. *arkansana* (Fern.) Steyerf. & Kucera  
*Gymnopogon brevifolius* Trin.  
*Hordeum pusillum*  
*Leersia lenticularis* Michx.  
*Leersia oryzoides* (L.) Swartz  
*Leersia virginica* Willd.  
*Lolium perenne* L. (E)  
*Manisuris cylindrica* (Michx.) Kuntze ;(R)  
*Panicum acuminatum* Swartz  
*Panicum anceps* Michx.  
*Panicum angustifolium* Ell.  
*Panicum boscii* Poir.  
*Panicum brachyanthum* Steud. ;(R)  
*Panicum clandestinum* L.  
*Panicum commutatum* Schult.  
*Panicum dichotomiflorum* Michx.  
*Panicum dichotomum* L.  
*Panicum hians* Ell.  
*Panicum laxiflorum* Lam.  
*Panicum polyanthes* Schult.  
*Panicum rigidulum* Bosc. ex Nees  
*Panicum scoparium* Lam.  
*Panicum verrucosum* Muhl. ;(R)  
*Paspalum dilatatum* Poir. ;(E)  
*Paspalum floridanum* Michx.  
*Paspalum laeve* Michx.  
*Paspalum setaceum* Michx.  
*Phalaris caroliniana* Walt.  
*Poa annua* L. ;(E)  
*Setaria faberi* Herrm ;(E)  
*Setaria geniculata* (Lam.) Beauv.  
*Setaria glauca* (L.) Beauv.  
*Sorghastrum nutans* (L.) Nash  
*Sorghum halepense* (L.) Pers. ;(E)  
*Tridens flavus* (L.) Hitchc. var. *flavus*  
*Tridens strictus* (Nutt.) Nash  
*Tripsacum dactyloides* (L.) L.  
*Vulpia bromoides* (L.) S. F. Gray ;(E)  
*Vulpia octoflora* (Walt.) Rydb.  
*Zizaniopsis miliacea* (Michx.) Doell & Asch.
- Polemoniaceae  
*Phlox divaricata* L. subsp. *laphamii* (Wood) Wherry ;(R)  
*Phlox glaberrima* L.  
*Phlox pilosa* L. subsp. *pilosa*
- Polygalaceae  
*Polygala incarnata* L.  
*Polygala mariana* Mill. ;(R)  
*Polygala sanguinea* L.  
*Polygala verticillata* L.
- Polygonaceae  
*Brunnichia ovata* (Walt.) Shinnars  
*Polygonum aviculare* L.  
*Polygonum bicornis* Raf.  
*Polygonum hydropiperoides* Michx.  
*Polygonum punctatum* Ell.  
*Polygonum ramosissimum* Michx.  
*Polygonum virginianum* L.  
*Rumex crispus* L. ;(E)  
*Rumex hastatulus* Baldw. ex Ell.
- Polypodiaceae  
*Asplenium platyneuron* (L.) Oakes ex D. C. Eat.  
*Athyrium filix-femina* (L.) Roth var. *asplenioides* (Michx.) Farw.  
*Lorinseria areolata* (L.) Presl.  
*Onoclea sensibilis* L.  
*Phegopteris hexagonoptera* (Michx.) Fee  
*Polypodium polypodioides* (L.) Watt var. *michauxianum* Weatherby  
*Polystichum acrostichoides* (Michx.) Schott  
*Pteridium aquilinum* (L.) Kuhn in Decken  
*Woodsia obtusa* (Spreng.) Torr.
- Pontederiaceae  
*Heteranthera limosa* (Sw.) Willd. ;(R)
- Portulacaceae  
*Claytonia virginica* L.  
*Portulaca oleracea* L. ;(E)
- Primulaceae  
*Lysimachia lanceolata* Walt. var. *lanceolata*  
*Lysimachia radicans* Hook.
- Ranunculaceae  
*Anemone virginiana* L.  
*Clematis crispa* L.  
*Clematis virginiana* L.  
*Myosurus minimus* L.  
*Ranunculus hispidus* Michx. var. *hispidus*  
*Ranunculus parviflorus* L. ;(E)  
*Ranunculus pusillus* Poir.  
*Ranunculus sardous* Crantz. ;(E)

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- Ranunculus sceleratus* L. var. *sceleratus*  
*Thalictrum thalictroides* (L.) Eames & Boivin
- Rhamnaceae  
*Berchemia scandens* (Hill) K. Koch  
*Ceanothus americanus* L.  
*Rhamnus caroliniana* Walt.
- Rosaceae  
*Agrimonia rostellata* Wallr.  
*Amelanchier arborea* (Michx. f.) Fern.  
*Crataegus intricata* Lange ;(R)  
*Crataegus marshallii* Egglest.  
*Crataegus spathulata* Michx. ;(R)  
*Geum canadense* Jacq.  
*Porteranthus stipulatus* (Muhl. ex Willd.) Britt.  
*Prunus angustifolia* Marsh.  
*Prunus mexicana* S. Wats.  
*Prunus serotina* Ehrh.  
*Prunus umbellata* Ell.  
*Rosa carolina* L.  
*Rubus argutus* Link  
*Rubus flagellaris* Willd.  
*Rubus trivialis* Michx.
- Rubiaceae  
*Cephalanthus occidentalis* L.  
*Diodia teres* Walt.  
*Diodia virginiana* L.  
*Galium aparine* L.  
*Galium circaeazans* Michx.  
*Galium obtusum* Bigel. subsp. *obtusum*  
*Galium tinctorium* L.  
*Hedyotis australis* Lewis & Moore  
*Hedyotis caerulea* (L.) Hook.  
*Hedyotis crassifolia* Raf.  
*Hedyotis purpurea* (L.) T. & G.  
*Mitchella repens* L.  
*Sherardia arvensis* L. ;(E)
- Salicaceae  
*Populus deltoides* Marsh. subsp. *deltoides*  
*Salix humilis* Marsh.  
*Salix nigra* Marsh.
- Sapindaceae  
*Cardiospermum halicababum* L. ;(E)
- Saururaceae  
*Saururus cernuus* L.
- Saxifragaceae  
*Itea virginica* L.  
*Hydrangea arborescens* L.
- Penthorum sedoides* L.
- Scrophulariaceae  
*Agalinis aspera* (Dougl.) Britt.  
*Agalinis fasciculata* (Ell.) Raf.  
*Agalinis viridis* (Small) Pennell  
*Aureolaria flava* (L.) Farwell  
*Aureolaria grandiflora* (Benth.) Pennell ;(R)  
*Gratiola neglecta* Torr.  
*Linaria canadensis* (L.) Dumont  
*Lindernia dubia* (L.) Pennell  
*Mimulus alatus* Ait.  
*Pedicularis canadensis* L.  
*Verbascum blattaria* L. ;(E)  
*Verbascum thapsus* L. ;(E)  
*Veronica arvensis* L. ;(E)  
*Veronica peregrina* L.
- Solanaceae  
*Physalis mollis* Nutt. var. *mollis*  
*Physalis longifolia* Nutt.  
*Solanum carolinense* L.
- Steracaceae  
*Styrax americana* Lam.  
*Styrax grandifolia* Ait. ;(R)
- Symplocaceae  
*Symplocos tinctoria* (L.) L'Her.
- Taxodiaceae  
*Taxodium distichum* (L.) Rich.
- Tiliaceae  
*Tilia americana* L.
- Typhaceae  
*Typha domingensis* Pers.  
*Typha latifolia* L.
- Ulmaceae  
*Celtis laevigata* Willd.  
*Planera aquatica* (Walt.) Gmelin  
*Ulmus alata* Michx.  
*Ulmus americana* L.  
*Ulmus rubra* Muhl.
- Urticaceae  
*Boehmeria cylindrica* (L.) Sw.  
*Pilea pumila* (L.) A. Gray ;(R)  
*Urtica chamaedryoides* Pursh
- Valerianaceae  
*Valerianella radiata* (L.) Dufur.

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## Verbenaceae

- Callicarpa americana* L.  
*Phyla lanceolata* (Michx.) Greene  
*Verbena brasiliensis* Vell. ;(E)  
*Verbena officinalis* L. subsp. *halei* (Small) Barber  
*Verbena urticifolia* L.

## Violaceae

- Viola rafinesquii* Greene  
*Viola sagittata* Ait.  
*Viola sororia* Willd. var. *missouriensis* (Greene) McKinney ;(R)  
*Viola sororia* Willd. var. *sororia*

## Vitaceae

- Ampelopsis arborea* (L.) Koehne  
*Ampelopsis cordata* Michx.  
*Parthenocissus quinquefolia* (L.) Planchon  
*Vitis aestivalis* Michx.  
*Vitis cinerea* (Engelm. in Gray) Engelm. ex Millard var. *cinerea*  
*Vitis riparia* Michx. ;(R)  
*Vitis rotundifolia* Michx. var. *rotundifolia*  
*Vitis vulpina* L.

## Xyridaceae

- Xyris torta* Sm.

ACKNOWLEDGMENTS.—We would like to thank Charles Becker, Philip Hyatt, Dr. Edwin B. Smith, and Dr. George P. Johnson.

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