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Remnant Prairie in Faulkner County, Arkansas?

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In this particular application, the calculator chip along with its associated display circuitry was used to perform required mathematical manipulation and to drive the L.E.D. display.

The application discussed here is only one of the large variety of applications in which a limited computing and control capability is useful. One might consider the use of a calculator chip in place of a microprocessor whenever the application requires principally the calculating power of the chip rather than the control power inherent in a microprocessor system. As a bonus the display driving capabilities are available for outputting the processed information. The display output also may be used for control purposes if desired.

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REMNANT PRAIRIE IN FAULKNER COUNTY, ARKANSAS?

Before white man came to Arkansas, several areas of the state supported large tallgrass ecosystems. The largest of these was the Grand Prairie, located north of the lower half of the Arkansas River; in other parts of the state smaller prairies existed. The Grand Prairie is estimated to have covered one-half to three-quarters of a million acres well past 1900 (Arkansas Department of Planning, Arkansas Natural Area Plan, Little Rock, 247 pp., 1974; Irving and Brenholts, An Ecological Reconnaissance of the Roth and Konecny Prairies, Arkansas Natural Heritage Commission, 50 pp., 1977). Today, the tallgrass prairie remnants can be found in Arkansas counties designated in Figure 1. No prairie remnants have been documented in Faulkner County. This major, distinct ecosystem largely has disappeared from the landscape due to cultivation and other activities of man, so much so that it has become important to identify any remaining prairie of high quality for preservation.

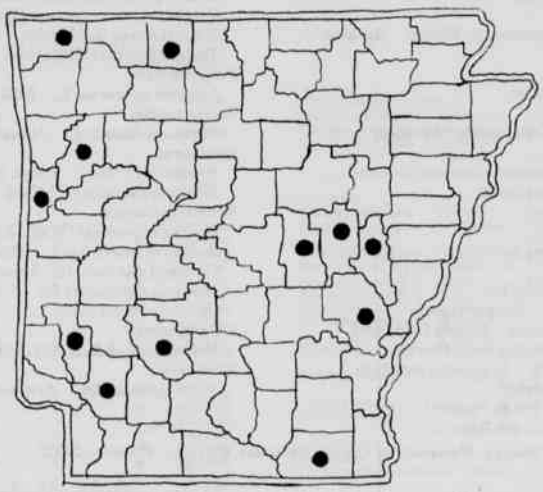

Figure 1. Arkansas counties where there are extant, tallgrass prairie remnants.

On the southern edge of Conway adjacent to industrial development lies an 18-20 acre open field owned by Frank Henze where a large population of *Castilleja coccinea* flowers each spring. *C. coccinea* is a species that typifies remnant areas of prairie in Arkansas (Ark. Dept. of Planning, 1974); this species should be considered rare and endangered in the state. According to the owner, several acres of the Henze property being studied have not been under cultivation for at least 40 years; the sole maintenance of this land has been an annual, fall mowing for hay. A number of collection trips were made to the Henze property between mid-April and early November, 1979. Plants were collected, processed and filed in the University of Central Arkansas Vascular Plant Herbarium. Since the central portion of this field has been cultivated, plants from the obviously disturbed areas were not collected.

Plants that are commonly found in and indicative of areas of remnant prairie (Ark. Dept. of Planning, 1974; Irving and Brenholts, 1977; Weaver, North American Prairie, 348 pp., 1954; Bill Shepard, *pers. comm.*) that were collected from the Henze prairie are: *Andropogon ternarius*, Split-Beard Bluestem; *Andropogon gerardi*, Big Bluestem; *Andropogon virginicus*, Broomsedge; *Sorghastrum avenaceum*, Indian Grass; *Liatris pycnostachya*, Blazing Star; *Eryngium yuccifolium*, Rattlesnake Master; *Buchnera americana*, Blue Hearts; and *Castilleja coccinea*, Indian Paintbrush (see List of Species Collected). Weaver (1954) indicates that the presence of Big Bluestem and Indian Grass (which are found on the Henze property) suggests that a piece of land is a remnant of the tallgrass prairie which grew in areas that were more moist. He further suggests that Little Bluestem *(Andropogon scoparius)* is usually found on better drained soils, which may help account for its absence on the Henze property. The annual fall mowing for hay may also retard or eliminate such expected species. A number of species were likely present but not collected due to staggered collecting trips. Should this field be remnant prairie, it does not appear to be in prime condition (Bill Shepard, *pers. comm.*).

LIST OF SPECIES COLLECTED (Nomenclature is largely in accordance with Smith, An Atlas and Annotated List of Vascular Plants of Arkansas, University of Arkansas at Fayetteville, 592 pp., 1978.)

Apiaceae
Eryngium yuccifolium Michx. Rattlesnake Master
Asclepiadaceae
Asclepias hirtella (Pennell) Woodson Milkweed
Asteraceae
Aster pilosus Willd. White Heath Aster
Boltonia diffusa Ell.
Coreopsis tinctoria Nutt. Tickseed
Eupatorium rotundifolium L.
Helianthus angustifolius L. Sunflower
Heterotheca graminifolia (Michx.) Shinners Grass-leaved Golden Aster
Hieracium longipilum Torr.
Lactuca canadensis L. Wild Lettuce
Liatris pycnostachya Michx. Blazing Star
Pyrrhopappus carolinianus (Walt.) D. C. False Dandelion
Rudbeckia hirta L. Black-eyed Susan
Senecio tomentosus Michx.
Solidago canadensis L. Goldenrod
Solidago leptocephala T. & G. Goldenrod
Solidago nemoralis Ait. Old Field Goldenrod
Solidago rugosa Ait. Rough-leaved Goldenrod
Vernonia missurica Raf. Ironweed
Campanulaceae
Lobelia puberula Michx. var. *mineolana* E. Wimm. Big Blue Lobelia
Convolvulaceae
Cuscuta cuspidata Engelm. Dodder
Cyperaceae
Cyperus ovularis (Michx.) Torr. Hedgehog Club Rush
Cyperus strigosus L.
Eleocharis tenuis (Willd.) Schultes var. *verrucosa* Svenson
Rhynchospora globularis (Chapm.) Small
Euphorbiaceae
Crotonopsis elliptica Willd.
Euphorbia corollata L. Flowering Spurge
Fabaceae
Cassia fasciculata Michx. Partridge Pea
Desmodium ciliare (Muhl.) D. C. Begger's Lice
Lespedeza cuneata (Dumont) G. Don Sericea Lespedeza
Lespedeza repens (L.) Bart. Creeping Bush Clover
Lespedeza striata (Thunb.) H. & A. Japanese Lespedeza
Strophostyles umbellata (Willd.) Britt.
Stylosanthes biflora (L.) B.S.P. Pencil Flower
Tephrosia virginiana (L.) Pers. Goat's Rue
Hypericaceae
Hypericum drummondii (Grev. & Hook.) T. & G. Nits-and-lice
Juncaceae
Juncus marginatus Rostk.
Lamiaceae
Prunella vulgaris L. Self-heal
Pycnanthemum muticum (Michx.) Pers. Mountain Mint
Pycnanthemum tenuifolium Schrad. Slender Mountain Mint
Melastomataceae
Rhexia mariana L. Meadow Beauty
Orchidaceae
Spiranthes cernua (L.) Richard Common Ladies' Tresses
Plantaginaceae
Plantago virginica L. Hoary Plantain
Poaceae
Andropogon gerardi Vitman Big Bluestem
Andropogon ternarius Michx. Split-beard Bluestem
Andropogon virginicus L. Broomsedge
Panicum anceps Michx. Beaked Panicum
Panicum scoparium Lam. Velvet Panic
Paspalum floridanum Michx. Florida Paspalum
Paspalum laeve Michx. Field Paspalum
Setaria geniculata (Lam.) Beauv. Knotroot Bristlegrass
Sorghastrum avenaceum (Michx.) Nash Indian Grass
Tridens flavus (L.) Hitchc. Purpletop
Tridens strictus (Nutt.) Nash Longspike Tridens
Polygalaceae
Polygala sanguinea L. Milkwort
Polygonaceae
Rumex acetosella L. Sheep Sorrel
Rubiaceae
Diodia teres Walt. Rough Buttonweed
Hedyotis caerulea (L.) Hook Bluets
Scrophulariaceae
Bacopa acuminata (Walt.) Robins. Water Hyssop
Buchnera americana L. Blue Hearts
Castilleja coccinea (L.) Spreng. Indian Paintbrush
Gerardia fasciculata Ell. Gerardia
Gerardia viridis Small
Valerianaceae
Valerianella radiata (L.) Dufr. Corn Salad
Violaceae
Viola sagittata Ait. Arrow-leaved Violet

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A CONTINUATION OF SPIDER RESEARCH IN ARKANSAS: GULF COASTAL PLAINS

For the past 13 years, research has been pursued concerning the spider fauna of Arkansas. At the present time, 233 species of spiders have been reported for Arkansas by Dorris (1972, 1977). This study revealed 235 species, 14 of which were new for the state. This is the second of a series of studies which will include a total of six areas: Ozark Mountains, Arkansas River Valley, Ouachita Mountains, Gulf Coastal Plain, Delta, and Crowleys Ridge. The first, included the Ouachita Mountain Area (Dorris, 1977), and this paper presents the spider fauna of the Gulf Coastal Plains Area of Arkansas (Fig. 1). Eventually, when all areas are covered, the spider fauna of the entire state of Arkansas can be ascertained with relation to distribution.

Methods of collecting used in the Gulf Coastal Plains Area were the same as those used in the Ouachita Mountain Area (Dorris, 1977): (a) heavy duty sweep net to sweep grasses and heavy brush; (b) sieve to sift leaf litter; (c) hatchet for chopping bark off trees; (d) hand picking from bushes, ground and old dwellings or other places; (3) mud-dauber nest collections to reveal paralyzed spiders captured by mud-daubers; and (f) night spot-lighting.

The spiders collected were placed in screw cap bottles with 70% ethyl alcohol. A field book was kept to identify bottle numbers and check stations and to record other pertinent data.

For complete coverage of the Gulf Coastal Plains, check stations were established in the eastern, central, and western sections of the area (Fig. 1). These check stations were covered from July, 1978 through December, 1979 using all collecting methods. Each station was checked three or more times to insure complete coverage.

Names used are those employed by Comstock (1948), Kaston and Kaston (1953), and Gertsch (1949). The arrangement of specimens examined is that of Kaston and Kaston (1953).