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Additions to the Arkansas Flora

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Observations of Flowering in *Arundinaria gigantea* (Walt.) Chapm. in Arkansas

the inflorescences in the canebrake at Parker Falls and the lack of fruit formation in the other sites may indicate a similar situation in Arkansas.

Apparently the flowering in other genera of the Bambuseae has been remarkable in recent years. Newspapers in 1969 carried accounts of flowering in imported bamboos in Arkansas and elsewhere in this country, and there have been numerous reports by the popular press of dramatic flowering in the orient. Harney (1970) reported that in Japan flowering in timber bamboos followed by large scale death has become marked since 1959.

According to McClure (1966) two important items of information often neglected in reports on bamboos is the quantity of mature fruits produced and the survival of plants after flowering. Thus far I have found no mature fruit in *Arundinaria gigantea*. On April 16, 1970 I revisited the large canebrake north of Amity. Many plants which had flowered the previous spring were dead, but a few flowering plants were found among them. In another part of the brake abundant flowering was observed (Marsh 3523).

In this study no attempt has been made to distinguish *A. tecta* (Walt.) Muhl. from *A. gigantea*, although McClure (1963) has reported anatomical differences in the rhizomes which may distinguish the two taxa. Certainly the two taxa cannot readily be distinguished on the basis of whether the inflorescences are borne on leafless new shoots or leafy branches of old canes, as

indicated by earlier manuals such as Small's (1933).

Further study of the current flowering cycle is projected.

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Additions To The Arkansas Flora

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I have noticed in the last two years several collections in the state of Arkansas which apparently represent new records for the Arkansas flora, and it seems worthwhile to call these to the attention of other botanists in the state. The following species were not included in Branner & Coville's list (1891), Buchholz & Palmer's supplement (1926), any of the various papers on the Arkansas flora since that time (see Dale, 1963, etc.), nor were they specifically indicated to occur in Arkansas in any of the manuals available for Arkansas or adjacent states (e. g. Small (1913), Steyermark (1963) etc.).

GRAMINEAE (Tribe Chlorideae)

Chloris virgata Swartz

Arkansas County: Common near Airport, even in

cracks in the runway, outside of Stuttgart, Aug. 22, 1969, Sophia McCoy 3. This species was not included by Moore (1961) in his list of grasses of Arkansas. It differs from the similar *C. verticillata* Nutt. in the long whitish tufts of hair near the apex of the lemmas.

CONVOLVULACEAE

Ipomoea cairica (L.) House

Hempstead County: South of Hope, Sept. 7, 1940, D. M. Moore 400420. Prairie County: 2 mi. W. & 1/2 mi. S. of highway 11 at turn off from Slovak, Aug., 1969, Sophia McCoy 11. This is the only *Ipomoea* in the state with palmately compound leaves, and is apparently well established in

Prairie County. It is apparently an escape from cultivation.

COMPOSITAE

(Tribe Astereae)

Haplopappus ciliatus (Nutt.) DC.

Arkansas River Valley region of the state, as: Pulaski County: Camp Robinson, Sept. 6, 1938, G. M. Merrill 1003. Franklin County: Small colony on dry roadside bank by U.S. 64, 2.2 mi. E. of jct. of highways 186 and 64 in Altus; Aug. 22, 1968, E. B. Smith 1236. This species differs from *H. divaricatus* (Nutt.) Gray, common in southern Arkansas, and *H. validus* (Rydb.) Cory subsp. *validus* (reported below) by its much larger heads (ca. 2-3 cm wide), ovate-orbicular to oblong leaves which are spinous-ciliate, and glabrous condition. It might be mistaken for a *Helianthus* or *Silphium*, to which it bears superficial resemblance, but differs from both in its turbinate achenes with a pappus of capillary bristles.

Haplopappus validus (Rydb.) Cory subsp. *validus*

Conway County: Entomology Dept. Composite survey, July 14, 1965; Abundant on a sandy knoll near highway 9, ca. 0.4 mi. S. of the old Arkansas River bridge S. of Morrilton, Aug. 22, 1968, E. B. Smith 1235. Shinner's (1951) combination, *Croptilon divaricatum* (Nutt.) Raf. var. *hookerianum* (T. & G.) Shinnery, which he applies to both this subspecies and to subspecies *torreyi* Smith, is in part a synonym of this subspecies. This taxon is similar to *H. divaricatus*, differing in several characters, among which are its shorter stature (ca. 40-50 cm tall) and its larger heads with more numerous flowers (ca. 15-25 ray flowers per head; ca. 45-75 disc flowers per head). This subspecies has apparently advanced from its usual range (Kansas to northern Texas) along the Arkansas River.

Solidago tortifolia Ell.

Jefferson County: Entomology Dept. Composite survey, exact locality not recorded, Sept. 17, 1965. Determined by Maxine Clark and confirmed by myself. This species resembles *S. odora* Ait., but differs in its leaves usually being few-serrulate at the apex and short-hairy on the lower surface (vs. the entire leaves of *S. odora* which are glabrous on the lower surface).

(Tribe Heliantheae)

Helianthus maximiliani Schrad.

Jefferson County: vicinity of W. 7th Avenue in Pine

Bluff, Oct. 19, 1969, Marie P. Locke 67. Based on the distribution shown by Steyermark (1963) in Missouri, this species should also occur in northern Arkansas. This species is a narrow-leaved one with a yellow disk, most closely resembling *H. grosseserratus* Martens, but distinguished from that species by its short appressed hairiness of the upper stem (vs. glabrous in *H. grosseserratus*) and smaller leaves.

Polymnia laevigata Beadle

Franklin County: Entomology Dept. Composite survey, exact locality not recorded, June 18, 1965. This rare species has been recorded from only 7 counties in 5 states (Wells, 1969): Alabama, Florida, Georgia, Missouri, and Tennessee. This station is the western-most collection site for the species by well over 100 miles. It is unfortunate that the exact collection site was not recorded. This species can be distinguished from the other two species in the state (*P. canadensis* L. and *P. uvedalia* L.) by its glabrous lower leaf surfaces (vs. hairy, at least on the veins, in the other species).

(Tribe Cichorieae)

Tragopogon dubius Scop.

Northwestern Arkansas, as: Boone County: scattered in roadside gravel 1 mi. W. of the jct. of highways 62 and 65, May 29, 1968, E. B. Smith 1175. Washington County: Scattered along the ditch by highway 45 on the E. side of Fayetteville, May 19, 1968, E. B. Smith 1156. The *T. porrifolius* L. reported by Buchholz & Palmer (1926) was probably this species. *Tragopogon porrifolius* has pale to deep violet-purple ligules, while this species has pale lemon yellow ligules. The huge dandelion-like fruits of this species (achene ca. 3-4 cm long, not counting the pappus) immediately distinguish it from other Compositae in the state.

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Floristic Elements of the Pope County, Arkansas, Area

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Pope County, Arkansas, a primarily mountainous county of the Arkansas River valley in west-central Arkansas, is a unique area floristically. The area has a rich flora representing a number of different habitats and vegetation types: rock outcrop (sandstone, shale, and limestone); unconsolidated sand dunes; several deciduous climax forest types, principally dominated by oaks of several species, often accompanied by one or more species of hickory, but with mesophytic species prevailing on moister, cooler sites; cypress-tupelo swamp forest; several forest types of successional nature, including shortleaf pine; various aquatic and semiaquatic vegetation types; and disturbed habitats in several stages of succession. Extensive agricultural land utilization and building construction activity allows for an abundance of weedy species.

Extensive vascular plant collections have been made within Pope County, and surrounding counties, within the past three years. Preliminary examination of these and other herbarium specimens has revealed several important phytogeographical elements within the flora of the area.

Any area, regardless of geographic location, will harbor species having many different geographic ranges. Any area, therefore, will have certain "rare" species which are either local endemics, disjuncts, or at least marginal in range. Many workers, therefore, think it idle to mention "northern" or "southeastern" or "western" species of an area. Such species, to be sure, are usually not of consequence if considered individually. It is less than easy, however, to discount large assemblages of such species groups on the basis of present distribution patterns alone. An assemblage of "rare" or "marginal" species is often instructional in interpreting past geological history, former distributional patterns,

and, in many cases, present ecological conditions of an area.

The following lists of taxa broadly categorize the phytogeographical affinities of important elements of the flora of Pope County and surrounding area. Sources of distribution data include Gleason and Cronquist (1963), Harrington (1966), Radford et al (1968), and Steyermark (1963). The lists are not exhaustive and are not intended to represent major contributions toward a check list of the area. They are offered as evidence of a diverse flora which offers much potential for serious study.

Specimens cited are on deposit in the Herbarium of the Biology Department, Arkansas Polytechnic College, unless otherwise noted.

TAXA HAVING PRIMARY DISTRIBUTION IN SOUTHEASTERN STATES

- Trichomanes petersii* Gray — Pope County (Redfearn, University of Arkansas Herbarium)
- Aira elegans* Willd. ex Gaud. — Pope County (Tucker 4191)
- Dichromena colorata* (L.) Hitchc. — Pope County (Tucker 4776)
- Rhynchospora macrostachya* Torr. — Pope County (Tucker 3624)
- Tradescantia hirsuticaulis* Small — Pope County (Wilson s.n.)
- Anilema keisak* Hassk. — Conway County (Tucker 7760)
- Ulmus crassifolia* Nutt. — Conway County (Tucker 8357)