A NEW HEART-LEAF AND OTHER INTERESTING PLANTS FROM AUTAUGA COUNTY, ALABAMA

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In May, 1924, on my way to my principal southern headquarters in Alabama after a few months' work in Florida, I spent a week-end (17th to 19th) with an ornithologist friend, Ernest G. Holt, at the home of his uncle, Lewis S. Golsan—a farmer and naturalist—near Booth in Autauga County. Booth is a railroad junction about six miles west-northwest of Prattville, the county-seat, and Mr. Golsan's farm is about two miles east of Booth and five miles from Prattville by road, and about one-half mile west of Bridge Creek, which flows in a general southerly direction toward the Alabama River.

The locality under consideration is just about at the southern edge of what I have described as the long-leaf pine hills division of the central pine belt of Alabama.* Its underlying strata are pinkish and yellowish sands and sandy clays, near the top of the Tuscaloosa formation (fresh-water Cretaceous), and the soils are rather sandy. A mile or so to the southward, across the Mobile & Ohio R. R. and the valley of Autauga Creek, is a steep wooded escarpment perhaps 200 feet high (which at Prattville looks like a small mountain), of the Eutaw formation, which overlies the Tuscaloosa and is at least partly of marine origin, and gives rise to somewhat richer soils.

The northern part of Mr. Golsan's farm is higher than the house, and two or three small streams (branches), originating in seepage springs, flow down the slope toward the house, and soon unite into a larger one flowing into Bridge Creek. Around the heads of some of the branches are small areas of sandy bog similar to those described from the same region by the writer a few years ago,† and a little farther down the streams flow through small swamps with the neighboring slopes more "mesophytic," having a small accumulation of humus. The uplands between the branches are in some places dry and sandy, with pine-barren vegetation, and elsewhere more fertile, with more deciduous trees and shrubs.

On the east side of Bridge Creek, about half a mile from Mr.

* Geol. Surv. Ala., Monog. 8, pp. 78–81. 1913.

† Torreya **22**: 57–60. 1922.

Golsan's, are bluffs with more loamy and moderately fertile soil, sometimes precipitous and sometimes gently sloping, rising to a height of 100 feet or more, and pretty well wooded. The vegetation on the more gentle slopes varies in density and luxuriance with the distance from the water, exposure to sun, etc., that near the base being fairly typical climax forest or rich woods, passing into dry woods higher up. On the most precipitous bluffs, where there is more exposure to sun and wind, but also better protection from fire, are a few plants that seem to be sensitive to fire (pyrophobic), such as *Illicium*, *Kalmia latifolia*, *Oxydendrum*, and *Symplocos*.

About half a mile farther south, after passing under the railroad, Bridge Creek flows into Autauga Creek, in a swampy bottom about one-half mile wide. Near this point, where the swamp is presumably sandier than usual, is one of the few known Alabama localities for *Pinus serotina*.* The large tree which I had seen several times from trains (and photographed in 1906) is still standing, and accompanied by a few smaller ones.

About four miles south of Booth, among the hills of the Eutaw formation, is a large creek swamp known as Bear Swamp, a tributary of the Alabama River. On the 19th I went into this swamp near its upper end with Mr. Golsan and Mr. Holt, who had hunted birds and other animals in it for many years. In recent years there has been some agitation for draining this swamp, on account of the widespread prejudice against swamps of all kinds; but if the part I saw is typical, draining it would do very little good from the standpoint of either agriculture or health. For it is a non-alluvial swamp, with the deepest peat I have ever noticed in Alabama. We had no way of measuring the total depth of the peat, but it is evidently several feet. A curious feature of the swamp is the presence of several deep pools of clear water with precipitous edges, not visibly connected with any channel. The only way I can account for them is that they may represent holes burned in the peat by fire during some extremely dry season, perhaps a generation ago. The vegetation of the part I saw has much in common with that of the Dismal Swamp of Virginia, and a bay and gum swamp near Tallahassee, Fla.,† the commonest trees being *Magnolia*

* See Bull. Torrey Bot. Club **33**: 524. 1906.

† See 3d Ann. Rep. Fla. Geol. Surv. pp. 254–255. 1911.

glauca, *Pinus Taeda*, *Nyssa biflora*, and *Acer rubrum*. A few other plants seen there will be mentioned farther on.

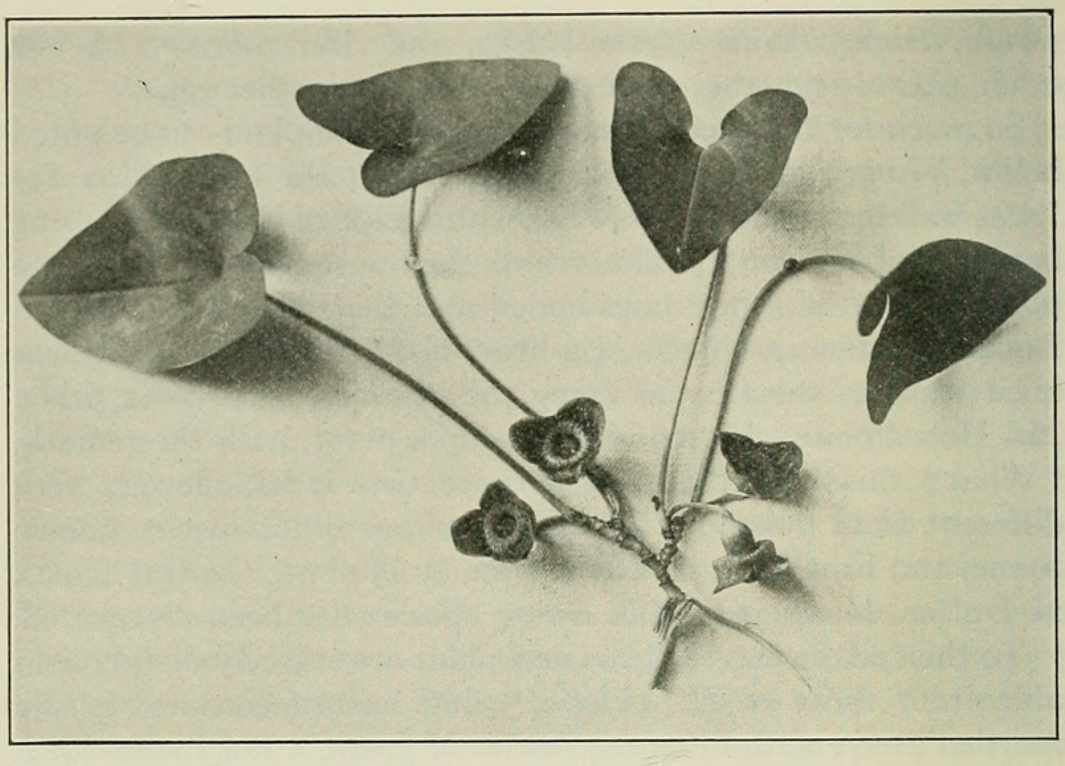
So much for the general environment of the plants to be noted below. About an hour after our arrival at the farm (May 17) I was walking with Mr. Holt down alongside of one of the spring branches about 200 yards north of the house, and about at the point where the sandy bogs ended and the richer woods began I noticed a few specimens of a heart-leaf (*Hexastylis**), and was about to pass them by as being the common *H. arifolia*, when Mr. Holt stooped down and pulled up a plant, with the remark, "What's this?" I then saw at once that it had flowers very different from those of *H. arifolia*, or any other species known to me, and I made a note of the time (5:45 p. m., Central Time), as I often do when I think a new species has been discovered.

To the eye the leaves of the new plant are scarcely distinguishable from those of *H. arifolia*, being hastate-cordate, faintly mottled above with different shades of green, a few inches long, with terete purplish petioles a little longer than the blades. But they lack the characteristic "medicinal" odor of *H. arifolia*, and we found the next day that we could distinguish the two species by their odor even when no flowers were present, as is often the case. (Like several other perennial herbs, every plant does not bloom every year, but whether the flowerless ones are simply too young, or they bloom only in alternate years or something like that, has not yet been determined.)

The plant resembles its congeners in growing in small tufts, with branching and slender but fleshy rootstocks.

The calyx or perianth (called hypanthium by Small) is about an inch long, greenish purple outside (like the petioles and peduncles), and instead of being pitcher-shaped as in *H. arifolia*, is abruptly expanded near the middle, in a manner difficult to describe but well shown by the accompanying illustration. The three calyx-lobes, which sometimes spread more

* This genus of Rafinesque's has been united with *Asarum* by most taxonomists who have dealt with it, except Small, but it seems abundantly distinct by its superior ovary and several other characters. (Some 19th century authors made it a section *Heterotropa*, under *Asarum*.) "Heart-leaf" seems to be the universal common name for any species of *Hexastylis* in Georgia and Alabama, if not throughout the South, but like many other southern plant names, it does not seem to have found its way into books written by northern botanists.



Hexastylis speciosa. About one-third natural size.

widely than those shown, making the perianth almost salver-shaped, are longitudinally striped within with dark purple bands, thus suggesting an affinity to *Aristolochia* more strongly than any other *Hexastylis* does.

The peduncles, about the same length as the flowers, are curved above in such a way that the flowers rest on the ground with their axes approximately horizontal, instead of being erect as in other species of the genus. Although the essential organs of the flower were not examined closely, they do not seem to differ materially from those of *H. arifolia.* (No insect visitors were observed, but it is a reasonable supposition that pollination is effected by some small insects that crawl on the ground.)

For the species here described I propose the name **Hexastylis speciosa,** in allusion to its showy flowers. (Any one who does not believe that *Hexastylis* is sufficiently distinct from *Asarum* can call it *Asarum speciosum.*)

A few minutes after Mr. Holt's discovery we noticed a fine clump of the same thing in richer woods farther down the same branch, and decided to leave it until the next day, and then bring it to the house and photograph it while it was fresh. In

the meanwhile Mr. Holt made a pencil sketch of one of the flowers, from the specimen he first gathered, and that has helped me to describe it after the flowers of the plants taken for herbarium specimens had lost their shape by pressing. On Sunday his sister, Miss Olivia Holt, who came out to the farm for a few hours with an automobile party, took a specimen back to Montgomery with her, and the next day, without any suggestion from me, had a professional photographer make the photograph which is used herewith. This shows the appearance of the plant better than words can, and makes a description almost unnecessary, except for size and colors.

On Mr. Golsan's farm the new species seemed to be the only *Hexastylis* present, but on Sunday we found both it and *H. arifolia* fairly common in rich woods along the Bridge Creek bluffs, and there we soon learned to distinguish the two species by their odor. On Monday, the 19th, I went with Mr. Golsan and Mr. Holt south from Booth several miles across the hills of the Eutaw formation, and there we found only *H. arifolia*. Again a few weeks later, when I was walking part of the way from Montgomery to Tuscaloosa on June 10 and 11, I found only *H. arifolia* in rich woods near the southeastern corner of Autauga County, and in similar situations in southeastern Bibb County. Although *H. speciosa* may turn up later in other counties, for it can easily be mistaken for *H. arifolia* at other seasons than spring, or even in spring if one does not look closely—for its flowers do not differ much in color from the decaying tree leaves among which they rest—it seems likely that we have one more to add to the rather long list of very distinct and handsome plants which are more abundant in Alabama than anywhere else, if not confined to the state. (Examples are *Magnolia macrophylla*, *Illicium Floridanum*, *Neviusia Alabamensis*, *Hydrangea quercifolia*, *Polygala Boykinii*, *Croton Alabamensis*, *Aesculus Pavia*, *A. parviflora*, and *Laciniaria polyphylla*.)

A few other plants found in the same neighborhood deserve special mention. The references to Dr. Mohr of course mean Charles Mohr's Plant Life of Alabama (1901).

Rhynchospora Grayii Kunth. On dry sandy uplands near Bridge Creek. Known to Dr. Mohr only from Baldwin and Mobile Counties, near the coast.

Lachnocaulon anceps (Walt.) Morong. Sandy bogs near heads

of branches on Mr. Golsan's place. Known to Dr. Mohr only from the "coast pine belt," but it grows also on Lookout Mountain, with several other coastal plain plants.

Uvularia sessilifolia L. Shady edge of branch-swamp on Golsan's place. Ranges chiefly northward.

Smilax Walteri Pursh. In Bridge Creek Swamp. Known to Dr. Mohr only from Clarke County and southward.

Persea pubescens (Pursh) Sarg. In Bear Swamp. Known to Dr. Mohr only from the "lower pine belt" and "coast plain;" but I had found it some years ago among the mountains of Clay County.*

Calycanthus sp. Common on moderately fertile uplands on Mr. Golsan's place, and in bloom at the time of my visit. Dr. Mohr lists two species, one from the highlands and one from near the coast, but I have never learned to distinguish them. I had no record of any member of this genus from the central pine belt before, though.

Ilex coriacea (Pursh) Chapman. The most abundant shrub in the part of Bear Swamp that I visited. This is near its inland limit.

Stewartia Malacodendron L. A single specimen, in bloom, in rich woods near Bridge Creek. This handsome shrub seems to be much rarer than one might suppose from the books. Dr. Mohr found it in Cullman County (locality and abundance not specified), and at one place in Mobile County (in 1879 only), and cited a specimen collected by Dr. E. A. Smith in Tuscaloosa County. Dr. Smith's plant was found about five miles east of Tuscaloosa, in the 70's, but he has never been able to locate it again, although a special search for it was made in 1923. I found it near Greenville, in Butler County, in June, 1906.

Azalea. At least two species or varieties, apparently near *A. viscosa*, were in bloom on Mr. Golsan's farm at the middle of May, but the splitters have been at work on this genus lately, and I could not identify them without taking specimens along for study, which I was hardly prepared to do. There are also a few *Vacciniums* there that might be worth investigating.

Pieris nitida (Bartr.) B. & H. In Bear Swamp and one or two other non-alluvial swamps in the neighborhood. Known to Dr. Mohr only from the "lower pine region" and "coast plain."

* See Torreya **10**: 220–221. 1910.

Lysimachia quadrifolia L. In dry woods near Bridge Creek, not common. This may be the southernmost known station for it. Dr. Mohr knew it only from Sand and Lookout Mountains.

Pinguicula pumila Mx. Sandy bogs near springs on Golsan's farm. Known to Dr. Mohr only from Baldwin and Mobile Counties, but I found it in similar places in Chilton County a few years ago.* In the central pine belt it grows larger than it does farther south, and might be mistaken for *P. elatior* in dried specimens, but the color of the corolla is more like that of *P. pumila* than *P. elatior.*

Utricularia subulata L. With or near the preceding. Commoner southward, but grows also on Lookout Mountain.

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A TRIP TO EL YUNQUE, PORTO RICO

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From the windows of our rooms at the Condado, the Luquillo Range of mountains—filling the northeastern end of the Island—loomed up, misty and blue in the early morning, or cloud-capped in the afternoon, and continually tempted us to come and see its wonders! One of the keenest disappointments of all our West Indian journeys had been that I was unable to join my husband and a party of botanists in a camping trip from Naguabo in 1913 to El Duque at the other end of the range. Having helped to take care of the plants and studied the mosses from that trip, I could faintly imagine what treasures awaited us on El Yunque. It is called the "Anvil" from the flat top so characteristic of the northeastern end of the range, and is 3,700 feet high.

Through the courtesy of the Forestry Department of the Federal Government of Porto Rico, and the kindness of Mr. Murray Bruner—Chief Forester—all arrangements were made for us to start from Mameyes on horse-back by the Catalina trail, for a "week-end" visit to the forest-ranger's huts of the Luquillo Forest Reserve. So we motored down to the Mameyes River, bag and baggage, ready to "rough it" and get wet.

* See Torreya **22**: 59. 1922.