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A Unique Wetland in Maryland

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ABSTRACT

The flora, vegetation, and subsurface conditions of a unique swamp and savanna wetland are described. Three vegetation zones are present: savanna, Atlantic white cedar swamp, and deciduous swamp. A total of 47, 39, and 42 vascular plant taxa are found within these zones, respectively, including a number of taxa characteristic of "bogs" or other acidic habitats such as *Habenaria blephariglottis, H. ciliaris, Pogonia ophioglossoides, Drosera intermedia,* and *Utricularia* sp. The discovery of this swamp and savanna wetland is considered significant in that the site is vegetatively unique in Maryland.

INTRODUCTION

On November 10, 1977, the senior author visited a wetland site on Cypress Creek that is a tributary of the Magothy River in Anne Arundel County, Maryland (Fig. 1). The purpose of the site visit was to investigate the potential occurrence of *Chamaecyparis thyoides* based upon aerial natural color photographs taken in 1971. The site contained *C. thyoides* as well as a small wetland savanna in its center. Because of the uniqueness of this site and its precarious location adjacent to a major highway corridor (Maryland Route 2) slated for upgrading, a tentative agency report was prepared briefly describing the site and making a plea for its protection (Sipple, 1977a). The site was periodically visited throughout the 1978 growing season in order to further document its vegetation, flora, and subsurface conditions. This paper is a report on our findings.

METHODS

Although no quantitative vegetation sampling was done, floristic observations were carried out. From these observations, field and aerial photographic measurements, and an interpretation of vegetation signatures on the aerial photographs, a

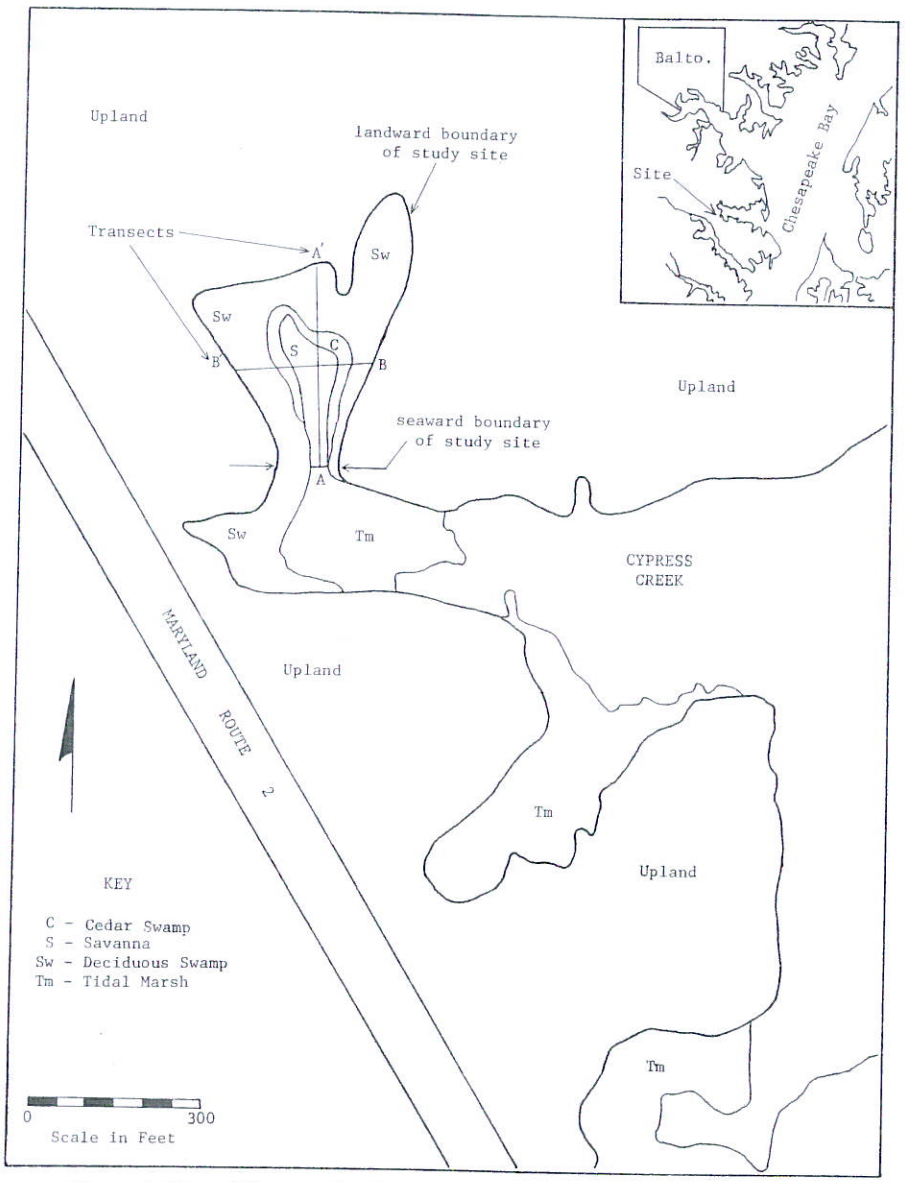

Figure 1. Map of Cypress Creek swamp and savanna and surrounding area showing the limits of the study site, its vegetation zones, and the location of transects A and B.

vegetation map was prepared delineating the savanna, Atlantic white cedar swamp, and deciduous swamp zones (Fig. 1).

The site was examined floristically about every two weeks between April 14, 1978 and November 1, 1978. Observations were made on vascular plant species occurrence for each of the three vegetation zones at the site. Representative species were collected and voucher specimens have been submitted to herbaria at the University of Maryland (MARY) and the Academy of Natural Sciences of Philadelphia (PH). In most instances nomenclature follows *Gray's Manual of Botany* (Fernald, 1950).

A modified soil auger with pipe extensions was utilized to determine subsurface conditions (i.e., substrate depth profiles) at the site. Two sampling transects were established (Fig. 2). Transect A was 334 feet long running the length of the site; transect B was 222 feet long running the site's width. Augering was done at 30 foot intervals involving a total of 12 and 8 sampling points respectively for transects A and B. Although solid cores could not be obtained with the modified augering device, approximate boundaries of peat, silty sediments, and sandy bottom could be determined by periodically withdrawing the device, removing foreign material clinging to the sides, and examining the non-contaminated intact material within the auger. The boundary between the peat and the silty sediments was determined by the friction of the peat (including logs) in the peat zone and the ease of movement of the auger through the silt. Augering into the sand gave a characteristic, easily predictable grinding sound. Nevertheless, auger samples were always withdrawn periodically to verify the substrate type.

RESULTS

Vegetation

Three vegetation zones are present at the wetland site: savanna, Atlantic white cedar swamp, and deciduous swamp. The savanna and Atlantic white cedar swamp together cover about one-half of an acre; the entire wetland site is about two acres in extent.

The savanna is centrally located and appears to be dominated by *Cladium mariscoides* and *Rhynchospora alba* with small (one to six feet tall) *Chamaecyparis thyoides* scat-