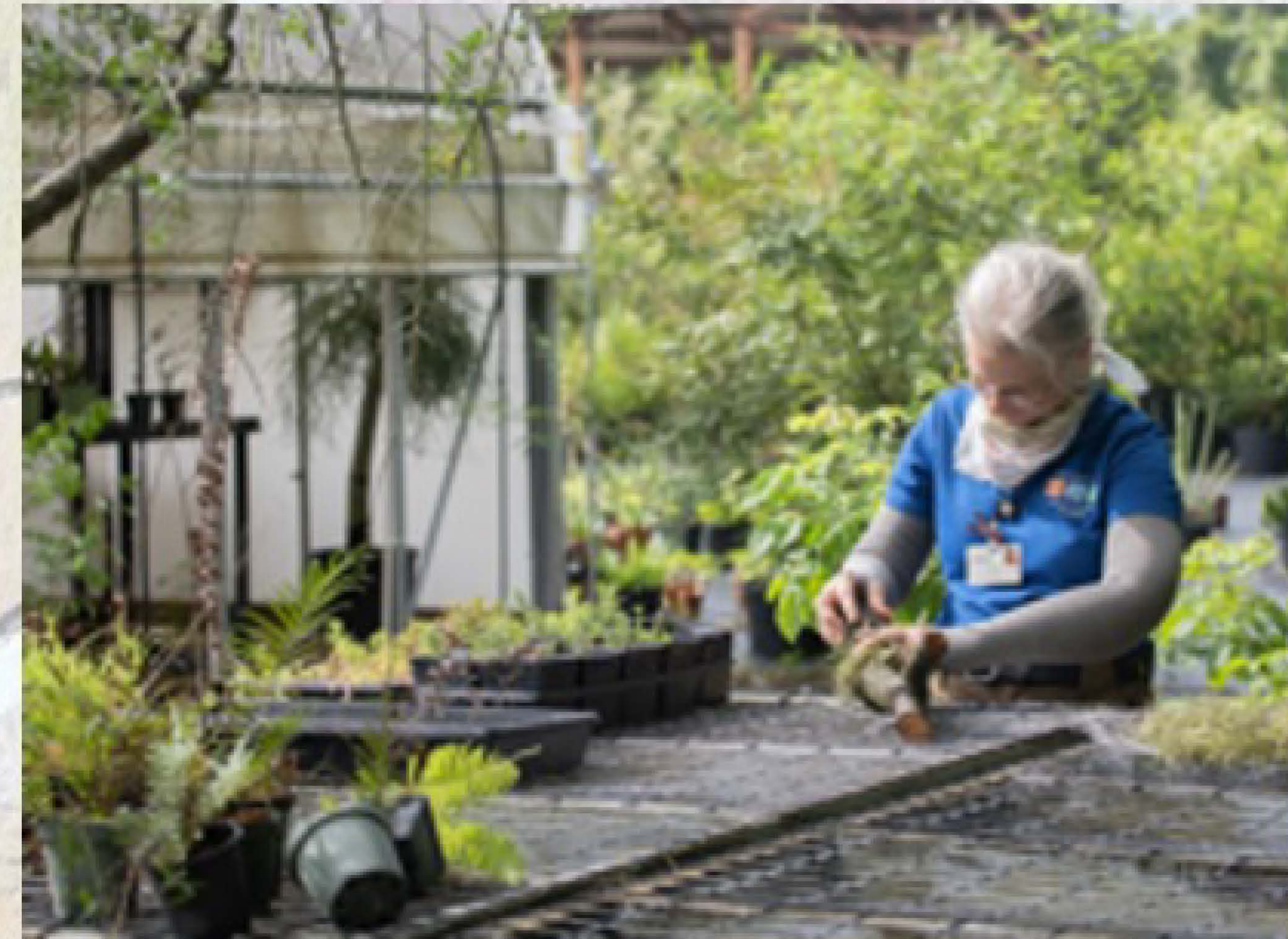


Bringing Awareness to Plant Conservation at the Jacksonville Zoo and Gardens

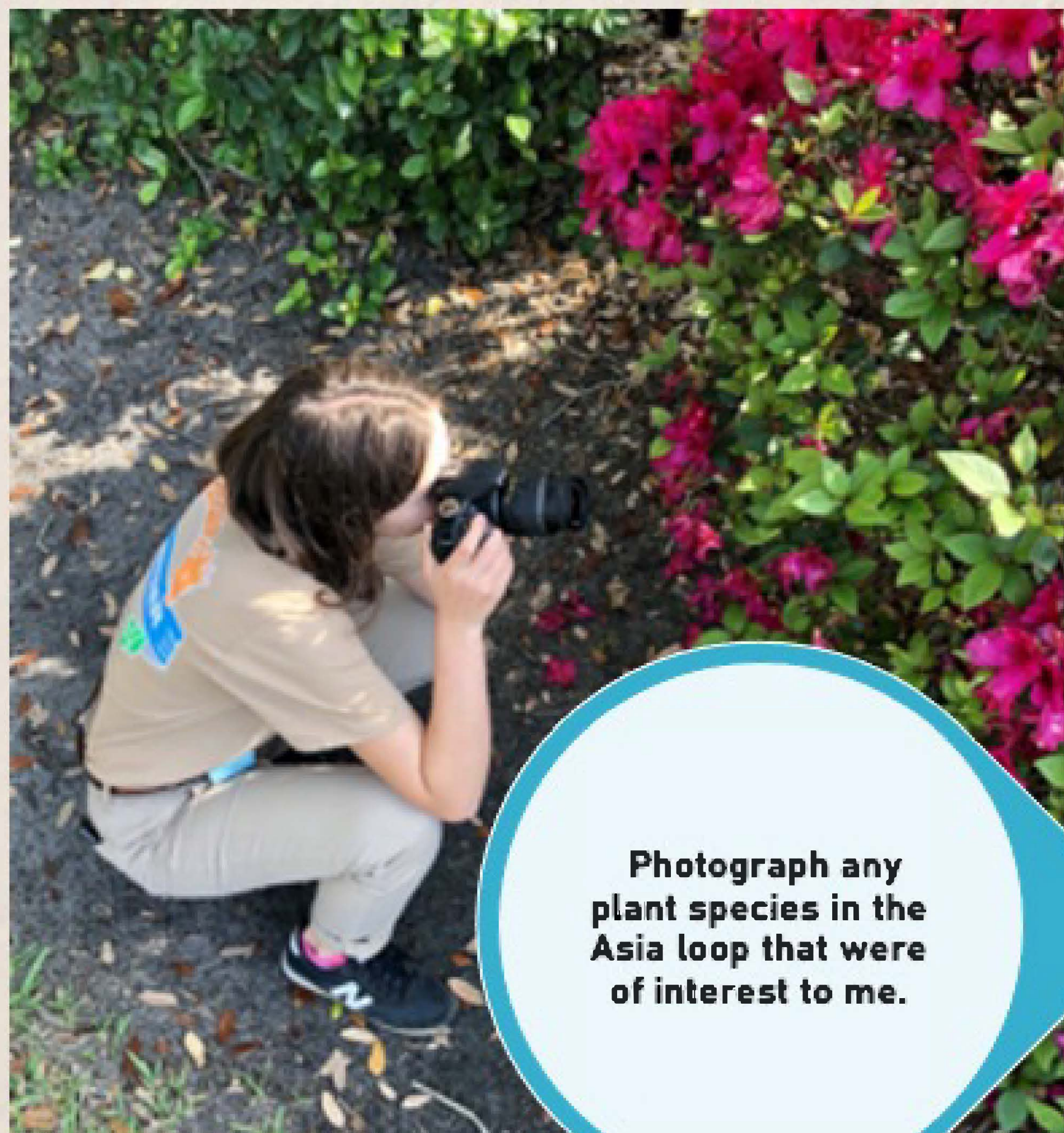
INTRODUCTION

Currently the Jacksonville Zoo and Gardens has limited information for the public about the variety of plant species that they host (many of which are endangered). The zoo is trying to emphasize to the community the equal importance of their gardens for species conservation. The manual being created will be beneficial for the education department to use in programming, community engagement, and volunteer awareness. The conservation of plant biodiversity is instrumental to ensure the future of many other endangered species, both animals and plants. Through education a new found community wide appreciation for plants can be established which in turn would further aid in environmental preservation.



METHODS

Identification of the plants was determined from either the horticulture department at the Zoo, or by using the *National Geographic* and California Academy of Sciences application iNaturalist. iNaturalist is a phone application which allows users to take photos of plants and add them to an online collection where they can be identified by scientists. After identification, research was performed.



Photograph any plant species in the Asia loop that were of interest to me.

If there was an existing sign created by the horticulture department with the species name on it I would use that.

To confirm that the sign matched the plant that I had photographed, I would search the plant in the Missouri botanical gardens database and compare their photograph to mine.

If the species was correctly identified I would move on to the research process by looking for the species in the Missouri botanical gardens, UF IFAS, the USDA, and in the U.S. national arboretum databases.

If no sign or placard existed I would use the iNaturalist application to identify the plant. After identification I would move onto research.

OBJECTIVES

- Compile a casual grade manual on the plants at the Jacksonville Zoo for the use of the education center.
- Bring awareness to the diverse collection of plant species at the Zoo.
- I will be specifically looking at the species on the Asia loop.
- Instilling a passion and curiosity for the conservation of plants at the Jacksonville Zoo and Gardens.
- Provide a resource that active volunteers could use while educating the public about the gardens.

Jane Japanese Magnolia
(MAGNOLIA LILIFLORA 'REFLORESCENS' x MAGNOLIA STELLATA 'WATERLILY')

Range: Garden origin
Height: 20 to 25 feet
Lifespan: Perennial
Classification:
Genus: Magnolia
Family: Magnoliaceae
Order: Magnoliales
Class: Magnoliopsida
Phylum: Tracheophyta (vascular plants)

Habitat: Jane Japanese magnolia like partial shade and moist soil with good drainage.

Description: This magnolia tree is a hybrid mix between two species of reflorescens and stellata. Because of this, the trees share many characteristics of the two. Jane magnolias grow into small multi-stemmed trees with smooth gray bark. They typically have a wide span of 20 feet and are taller than they are wide. The leaves are slightly leathery and the branches may have a few fuzzy flower buds. Starting in April, blooms will come followed by flowers. The flowers have a purplish pink gradient and are lined with white. Each flower is about 4 inches in diameter with around 8 to 10 tepals.

Adaptations: This hybrid cultivar blooms two weeks after Magnolia stellata and Magnolia soulangeana. This means that Jane Japanese magnolia often miss the effects of spring frost damage. The leathery and waxy quality of the leaves makes this species resistant to summer heat and drought. Unfortunately, because Jane Japanese magnolia are hybrid plants, they are sterile.

Special Interests:
• Jane Japanese magnolia belong to a group of hybrid magnolia cultivars that are referred to as "the girls." The girls were created in 1955 and 1956 at the U.S. National Arboretum by Dr. Francis de Vos and William B. Kester. To do this they crossed either one of two cultivars of Magnolia sibirica, 'Rigo' or 'Reflorescens', and one of two Magnolia stellata cultivars, 'Rosee' or 'Winterly'. There are eight "girls" in this series of hybrids and their names are Jane, Betty, Judy, Thelma, Sandy, Susan, and Ricki. Kester was the one to give the names and he chose to dedicate them after various people.

Chinese Fringtree
(CHIONATHUS RETUSUS)

Range: China, Korea, Japan
Height: 10-25 feet
Lifespan: Perennial
Classification:
Genus: Chionanthus
Family: Oleaceae
Order: Lamiales
Class: Magnoliopsida
Phylum: Tracheophyta

Habitat: Chinese fringe trees like habitats that offer them full sun for six hours of the day in well drained slightly alkaline soil.

Description: Chinese fringe trees are deciduous shrub-like trees. These trees have a canopy of about 10 to 20 feet. They have gray-brown "barkeling" bark which means that the bark will peel off of the trunk in spots. The leaves of this tree are leathery, elliptical in shape, and dark green with a paler underside. Leaves are about 3 to 8 inches in length and have an opposite symmetry to each other. In the fall, the leaves will turn yellow and eventually drop. These trees are dioecious which means that there is a male and female tree. Both males and females will produce clusters of showy, fragrant, white flowers in the spring. The clusters of flowers grow upright on the ends of branches. Flowers will be present for about 2 to 3 weeks. In female trees, the flowers will develop into bluish purple 1/2 inch long fruits that will ripen in late summer.

Adaptations: These trees are highly tolerant of air pollution and because of this are found in many urban areas of Asia. These trees can be propagated a variety of ways including by: seeds, cuttings or layering.

Special Interests:
• The botanical name is derived from the Greek words chion (snow) and anthos (flower) and the snow white flowers. Pectus means "rounded with a shallow notch across apex." This applies to referring to the shape of Chinese fringe tree leaves.
• Chinese fringe trees have a very low potential for becoming invasive as they grow very slowly. A typical tree will only grow about 4 to 10 inches per year. However, growth is dependent on the maintenance-in-ground setting (non well-irrigated soil) it can grow up to 1 foot per year.

What information is included on each page?



OUTCOMES

- Over 25 different species on the Asia loop were identified, photographed, researched, and cataloged.
- Some notable species are: Jane Japanese magnolia, azalea, tropical blue bamboo, strangler fig, and banana.
- "The education Department, including the volunteers, Exhibit Guides (paid part-time employees), and educators [will] use them for programming or speaking with guests."
- Over 400 active volunteers at the Zoo will have access to the book.
- Gives a wide breadth of plant information that the Zoo education department will be able to utilize.



Project Leader
Anastasia Utley
n01430219@unf.edu
www.unf.edu/center

Community Partner
Alyssa Knowlton
knowltona@jacksonvillezoo.org
<https://www.jacksonvillezoo.org/education>