Mount Arabia

Date of trip: 9/15/2017
Ecoregion: Piedmont
Weather Conditions: Warm, high 70s-low 80s, light wind, partly cloudy
Mount Arabia Geology

Common rock types present on Mount Arabia are granite, gneiss, and migmatite. The dominant rock types found on Mount Arabia indicate the mountain is rich in quartz. Iron oxide banding was present on parts of the mountain. Several geological features and processes are present on Mount Arabia. Exfoliation had occurred on parts of the mountain, exposing bare rock onto the surface. Young, developing soil showed potential new dish garden sites.
Mount Arabia Ecology

Several stages of ecological succession were present at Mount Arabia. This started with the elf-orpine community, which had not yet bloomed due to the season. Moss and lichen communities were dominant at the time. There were species which could tolerate the conditions on Mount Arabia, such as the prickly pear cactus and haircap moss. Xanthoparmelia lichen contributed to soil formation, as the area around them appeared to have young, sandy soil. The slope aspect appeared to affect plant growth, as most of the plants faced north, providing a relatively mild environment.
Mount Arabia Hydrology

Several groundwater seeps were present on Mount Arabia. These seeps allowed moss and grass species, especially poikilohydric species like rock moss, to grow in the area. The water from one of the seeps had a red tint. After examining it, we determined the groundwater flowed through an iron oxide deposit in the mountain before rising to the surface, creating a red tint in the water.
Mount Arabia: Woodland

After we left the mountain and hiked through the surrounding woodlands, we witnessed a change in vegetation. The area consisted of shrubs and trees found in a woodland. These included red cedar and sweet gum. Confederate daisy was common. There were a few rare native species in the area, including the devil’s walking stick. Some invasive species were present. These included Chinese privet and Japanese honeysuckle.
Blue Ridge Mountains

Date of trip: 9/29/2017

Ecoregion: Blue Ridge

Weather Conditions: low 50s to high 70s, light winds
Blue Ridge Mountains

We hiked the Appalachian Trail and journeyed through Wildcat Mountain. Due to the high altitude and cooler temperatures, the Blue Ridge Mountains resembled a northern hardwood forest. Some of the common tree species we saw were sugar maple, tulip poplar, yellow birch, and several oak species, including white oak and scarlet oak.

White oak
Blue Ridge Mountains Geology

The region explored was part of the southern crystalline ridges. Soils in the Blue Ridge ecoregion were moist and very rich in nutrients due to the abundance of decaying organic matter. Due to the lush ground covering, it was difficult to examine some of the geological features in the area. However, we came across a boulder field forest.
Blue Ridge Mountains

As we ascended the mountain, we noticed a change in the structure of the forest. Some trees had a stunted growth due to the stronger winds at higher elevations. Species like mountain laurel and hemlock were present in the area.
Blue Ridge: Ground Covering

The region we hiked in had a moist, nutrient rich, acidic soil which contributed to a rich, diverse ground covering. Some of the plants found on the forest floor included galax, cladonia lichen, and lycopodium.
Blue Ridge: Undergrowth

As we hiked throughout the forest, we noticed some areas had a rich undergrowth. Some areas had a dense shrub growth. Some of the shrub species examined during the trip include maple leaf viburnum and false solomon’s seal.
Blue Ridge: Animal Sightings

There were a few animal sightings on the trip. Insects were the most common animal sightings, but we came across a baby ringneck snake.

Spider found in the shrub layer

Caterpillar found in the undergrowth

Baby Ringneck Snake
Blue Ridge Hydrology

Water plays an important role in sculpting the landscape due to the high precipitation the Blue Ridge mountains receive. Cascading streams were common in the area. The topography had an effect on the streams, which had steep gradients. The steep gradient created several rapids in the streams we saw.

There were several rapids in the Blue Ridge streams

Topography affected stream gradient and runoff
Raven Cliff Falls

We followed the stream which led us to Raven Cliff Falls. Raven Cliff Falls consists of a sequence of waterfalls which carves through an acidic rock outcrop.
Cloudland Canyon

Date of trip: 10/27/2017
Ecoregion: Ridge and Valley
Weather Conditions: Mostly sunny, warm, high 60s to low 70s, winds 10-15 mph
Cloudland Canyon Geology

The canyon was underlaid by quartz-grained limestone, but shale covered most of the limestone throughout the canyon. Chert, a silicate sedimentary rock, was also present in several areas. Soils on the canyon floor were rich in calcium due to the abundance of limestone.
Cloudland Canyon Hydrology

The area had received abundant rainfall earlier that week, which contributed to a high stream discharge. Some regions exhibited a rich riparian zone.

Streams discharge was high

Plant growth was common around the stream banks
Cloudland Canyon

The area we hiked in had a rich, dense, diverse herb layer. This appeared to be a result of the calcium-rich canyon floor and recent heavy rain in the area. The composition of the forest resembled an acidic cove forest. Several species of ferns, including maiden hair fern and Christmas fern, were present throughout the canyon floor.
Cloudland Canyon
Acidic Cliffs

We followed a creek which brought us to a waterfall flowing over a sandstone rock outcrop. We had reached an acidic cliff. Species found in an acidic oak-pine-hickory forest were common in the area due to the soil composition.
Wormsloe State Park

Date of trip: 11/10/2017—11/12/2017

Ecoregion: Coastal Plain

Weather Conditions: Low 50s to mid 60s in Wormsloe, wind chill created a cooler temperature on Jekyll Island
Wormsloe State Park resembled a maritime forest. It contained a 1.3 mile stretch of live oaks. Spanish moss was common throughout the region. There was evidence that the recent hurricanes had impacted the region, as some trees had fallen or were damaged. Wormsloe was mostly underlain by sedimentary rock and had a flat topography.
Wormsloe State Park Maritime Forest

The maritime forest at Wormsloe exhibited the characteristics of a young forest, containing species like sweetgum and magnolia. Some pine species were present, including longleaf and loblolly.
Wormsloe State Park Maritime Forest

The maritime forest was a complex ecosystem, hosting various species. The climate affected the growing season of the region, as many trees in the area had not shed their leaves.

Red Lichen
Sparkleberry
Cabbage Palm
Wormsloe Salt Marshes

The salt marshes around Wormsloe had a variety of wetland plant species. Spartina grass species were common.
Jekyll Island Mud Flats

Plant life on the mudflats was scarce due to the hypersaline environment, mostly consisting of small patches of sea lavender. Although the mud flats lacked an abundance of plant life, there was evidence that animal life was present on and around the Jekyll Island mud flats. We found some fiddler crabs. Although we did not see any deer, footprints showed evidence of deer in the area.
Jekyll Island Beach

Winds were strong on Jekyll Island that day, and the wind chill created a cooler temperature. We witnessed the active process of dune formation, as the strong winds contributed to sediment build up on the dunes. Several species of spartina grass held down soil, allowing sand dunes to form.

Seagulls struggled to fly due to strong wind speeds

Spartina grass helped form Jekyll Island dunes