Stop 310 Adult Tour – Succulent House Overview

This house and the adjacent Show House were rebuilt in 1901 on the site of the garden’s original two-room greenhouse structure, and for many years Smith students attended horticulture classes here. Now serving as our Succulent House, it features plants that have adapted to scarcity of water and environments of extreme temperatures and intense sunlight.

The plant collection here represents flora from deserts and other arid regions of the world. All the plants located on the northern side of this greenhouse (along the long brick wall) are cactus and succulents of the New World – that is, North America, Central or South America. Everything on the southern side (closest to the pond, which you can see out the glass panes) is from the Old World countries of Africa, Asia or Europe. To help you discern the geographic dividing line we’ve fashioned a visible border out of colored tiles.

As you look around, you’ll find that succulents have evolved many unusual strategies for surviving in hostile conditions. In some plants, silver-colored foliage reflects heat, or waxy coatings prevent water loss; in others a variety of spines and thorns protects them from predators. In addition, long taproots are used to gain access to water, which can then be stored in broad fleshy leaves or thick trunks. Some plants only grow when there is sufficient water and lie dormant the rest of the year.

Among the succulents, cacti are perhaps the best-known plant family, so it’s not surprising that this garden is commonly called the cactus house. Since most cacti have no leaves, they use their green stems to get the sun they need for photosynthesis. True cacti, are almost all native to the New World, but in our rockscape you can see similar forms and shapes in other plant families and from all areas of the world. It is interesting that unrelated plants on different sides of the globe have evolved similar adaptations to hot dry climatic conditions. An amazing number of different plant families boast species with succulent forms. See if you can find the aloe, which is a member of the lily family, and notice what special characteristics it has. As you look around, you’ll discover the extent of variations and forms seems limitless when a plant must adapt in order to survive the harsh realities of nature. What other adaptations to drought can you observe?