

## **Tsutsujigahara Nature Trail**

### *The nature trail*

Follow the Tsutsujigahara Nature Trail through a forest of towering Sakhalin spruces and fields of alpine plants to the steaming Mt. Io (Atosa-nupuri), an active volcano. As you walk the winding woodchip path toward the mountain, you will notice distinct changes in the vegetation. Sakhalin spruce and white birch predominate along the initial section of the trail. Farther on, a clearing in the forest reveals an expanse of Labrador tea plants. In June, these plants produce swathes of delicate white blooms. Closer to Mt. Io, volcanic ash carpets the ground. Despite the ash, plants such as Japanese stone pines and crowberries thrive here, as do various colorful lichens.

### *Mt. Io (Atosa-nupuri)*

Japan's indigenous Ainu people call Mt. Io "Atosa-nupuri," which means "bare mountain." The slopes are rocky and barren, and steam gushes from numerous naturally occurring vents. Adding to Mt. Io's otherworldly appearance, the sulfur deposits color the landscape a bright yellow. Hot spring water flows from beneath the mountain to the town of Kawayu, where it is piped up to fill the baths of the town's hot spring (*onsen*) resorts.

### *Mt. Io's history*

Mt. Io was key to the development of the Kawayu area. A rich deposit of sulfur was discovered here in the nineteenth century, and commercial mining began in the 1870s. Hokkaido's second railway line was built to transport the sulfur, and boomtown settlements sprang up in the area. Mining no longer takes place on the mountain, but you can see a display of Meiji-era (1868–1912) mining equipment, including a small-scale model of the steam train that used to transport the mined sulfur away from Mt. Io, at the visitor center by the mountain's foot.

### *Mt. Io's soil*

Mt. Io's desolate landscape provides a stark contrast to the lush green of the neighboring mountains. Its highly acidic soil means that only the most robust vegetation can survive. The vegetation that does grow here does not decay even long after it dies, because of the lack of bacteria in the soil. The ground is littered with the broken and twisted branches of

Japanese stone pines and the occasional bodies of small birds and rodents. The harsh conditions have forged an otherworldly environment, and conservation efforts to protect this unique ecosystem are underway.

#### *Labrador tea*

Labrador tea is a ground-hugging evergreen tundra plant that thrives in inhospitable areas. The Labrador tea plants at the base of Mt. Io cover an area of around 1 square kilometer, and when they bloom in June, their white flowers, which resemble cotton balls, carpet the area. These hardy shrubs flourish here where few other plants can survive in the acidic soil. Notice also how the tea plants grow in clusters around the bases of Japanese stone pines, benefiting from the protection they afford from the elements.

#### *Japanese stone pine*

The Japanese stone pine is a hardy shrub that can survive in very hostile environments. Unlike the stone pines on Japan's main island of Honshu, which usually grow at elevations over 2,000 meters, stone pines here can be seen at much lower altitudes. They thrive here at only 150 meters above sea level and flourish despite the acidic soil surrounding Mt. Io. The spotted nutcracker feeds on the seeds from stone pine cones. These intelligent birds use their beaks to push the seeds into the cracks of rocks to store them for the harsh winters.

#### *Crowberry*

Crowberry is an alpine plant, and like the Japanese stone pine, it grows in abundance here. In spring, after the snow thaws, the crowberry blooms with delicate red flowers ahead of any of the other flowering plants in the area. In the fall, it produces purple-black berries similar to mulberries. In the past, the berries were used to make a natural dye for Ainu apparel. Today, they are gathered to make a distinctive local jam.

#### *Lichen (Cladonia rangiferina)*

As you approach Mt. Io, peer at the ground and you will spot what look like tiny, bright-red flowers. These are actually a lichen. Lichen can survive where other organisms cannot, and this hardy species plays a vital role in the Tsutsujigahara ecosystem, trapping volcanic

ash and preventing it from infiltrating the soil. Keep an eye out for this important character in the ecology of volcanic terrain while exploring the volcanic terrain of Akan-Mashu National Park.