Forestry and Forest Products Research Institute

# Tama Forest Science Garden

## Outline

Preservation and utilization of cherry tree strains

Management and utilization of suburban forest

# Overview of the Garden

The Tama Forest Science Garden was started in February 1921 as a Forestry Experiment Station by the Imperial Forestry Bureau of the Imperial Household Ministry.

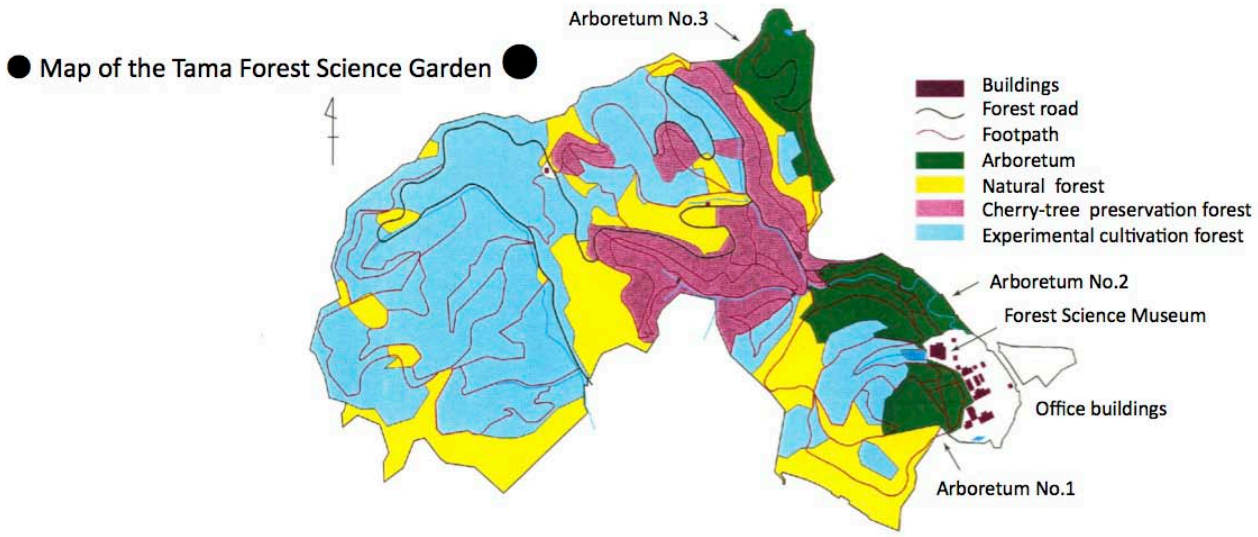
Today, it is a branch of the Forestry and Forest Products Research Institute and an organ for experimentation and research pertaining to forests, forestry, and the wood industry. It develops management and utilization techniques for exploiting the multifaceted capabilities possessed by suburban forests, as well as research on preservation of flora and fauna biodiversity, elucidation of ecosystem roles, and preservation and utilization of cherry tree lineages, among other activities. Also, the Garden carries out appealing public activities to deepen the general public's understanding of forests, forestry, and the wood industry. In addition, it plays a major role in providing research materials and serving as a study site for the Arboretums, Experimental Forest, Cherry Tree Preservation Forest, and other facilities inside it.

## Cherry Tree Preservation Forest and Arboretums

In roughly 8-hectare, the Cherry Tree Preservation Forest, contains over 1,600 cherry trees gathered from locales all over Japan. These include cultivated varieties handed down from before the Edo Era and clones of cherry trees designated as protected species.
The arboretums, roughly 7-hectare, are planted with 6,000 trees of 500 species, including rarely seen species such as the Semper Sequoia and Yatsugatake spruce. The majority of these species are composed of tall tree species used in forestry. Open to the public all year round, the Cherry Tree Preservation Forest and the Arboretums are enjoyed by many people, especially during the cherry blossoming season.

## Experimental Forest

Roughly 40-hectares, the Experimental Forest contains remains of natural forests. Predominantly, it is filled with warm-temperate zone evergreen trees such as *Abies firma*, *Catanopsis cuspidata*, and *Quercus salicina*, but also contains deciduous trees of the cool-temperate zone, such as *Kalopanax septemlobus* and *Cerasus leveilleana*. More than 600 species of plants grow naturally in this forest, retaining a highly natural state for a Tokyo suburb forest.
When the Garden was initially founded, this forest was used as grounds for experimental cultivation of domestic and foreign species used in forestry, such as *Zelkova serrata* and *Pinus taeda*. Today, however, it consists primarily of natural forest and is utilized as a site for investigation and conservation of wild flora and fauna.




# Renkoji and Akanuma Experimental Forests

Located in the Tama municipality of the Tokyo metropolitan area, the Renkoji Experimental Forest (about 5 ha) offers an arena for conducting surveys of biota and a variety of other forest studies, such as research on the capabilities of suburban forest and forest learning visits by local elementary school students and others.
The Akanuma Experimental Forest (about 7 ha) is located in Hatoyama-machi, Saitama Prefecture. It carries out numerous activities including walnut grafting experiments, insect fauna surveys, synchronous flowering of moso bamboo, development of forest environment educational programs with nearby high schools, and surveys on atmospheric nitrogen, thermal environments, quantities of sunlight and moisture in suburban forest.

# Overview of Research

## Team Leader (Environmental Education Capability Assessment)

Although we may live in the city, our lives take shape under direct and indirect influences from the forest. My team investigates the habitats of the insects that live in suburban forest, and through that, carries out research for developing biodiversity preservation and methods for eliminating harm to insects. In addition, it develops programs for communicating the fruits of that research to the general public and students in readily, understandable ways.

*Narathura japonica* (butterfly) larva, which eats the leaves of oak species. It attracts ants seeking the honey that comes out of its back.

## Team Leader (Urban Natural History)

Forests adjacent to cities, while impacted by human activity, have preserved unique biota that is different from those of the inner mountain forests. In order to elucidate the potential for biota conservation that the remaining urban area forests possess, my team conducts continuous investigations on how the mammalian biota inhabiting urban areas changes along with the environmental changes in their habitats.

*Meles meles* (badger) -- a species typical of suburban lowland and hill forests.

## Educational Resources Research Group

Historically, the broad-leaved deciduous secondary forests of suburban areas were maintained and managed by what are called “satoyama-rin” (village woodlands), for firewood/charcoal production and agricultural utilization. But since the shift in fuel sources, they have lost their purpose, and their area has decreased. Those that have survived have been abandoned, thus in a state much different from before. We are continuing our research to understand the forest distribution and biodiversity. We are also determining how biota vary with differences in management methods in order to preserve suburban forests in sound conditions and to utilize their resources.

Many treasured plants are to be found in satoyama village woodland, which is managed with traditional methods.

At the Tama Forest Science Garden, we conduct research for a policy of utilizing the fruits of our research in forest science for forest environment education. We have established an environmental education forest inside the Garden as a site for learning about biodiversity preservation and other forest aspects of forests. We are also conducting a wide variety of research that is necessary for schools and other institutions to proceed with forest environment education activities, particularly research for developing learning programs and teaching materials.

Tree learning tool set up inside the Garden: “Who am I ?”

The Tama Forest Science Garden’s Cherry Tree Preservation Forest contains the largest collection of cherry tree cultivated varieties in Japan and is an extremely precious genetic resource. Yet, the traditional cultured varieties, some of which go as far back as the Edo Era, are thought to have been involved in identity mistakes of various kinds. Therefore, we are making use of highly accurate DNA analysis and morphological analysis to conduct identification and lineage analysis so as to elucidate the actual state of these numerous cultivated varieties. Further, we are making advances in research in order to make practical uses of these varieties in the future.


A case of four varieties that have long been called by different names but have been determined to have identical DNA.

## History

1921, February Established as a Forestry Experimental Station of the Imperial Household Ministry's Imperial Forestry Bureau.
1940, January Renamed as the Imperial Forestry Bureau Tokyo Forestry Experiment Station.
1947, April Transferred to the Ministry of Agriculture and Forestry under a unification of forest administration. Renamed as the Asakawa Forestry Experimental Branch Station.
1957, July Renamed as the Asakawa Experimental Forest.
1988, October Renamed as the Tama Forest Science Garden of the Forestry and Forest Products Research Institute.
2001, April Forestry and Forest Products Research Institute becomes and Incorporated Administrative Agency.
2006, October Tama Experimental Plot renamed as the Renkoji Experimental Forest, and the Akanuma Experimental Plot as the Akanuma Experimantal Forest.

## Organization

**Forestry and Forest Products Research Institute (Tsukuba City)**

- Hokkaido Research Center (Sapporo City)
- Tohoku Research Center (Morioka City)
- Kansai Research Center (Kyoto City)
- Shikoku Research Center (Kochi City)
- Kyushu Research Center (Kumamoto City)
- **Tama Forest Science Garden**
- Forest Tree Breeding Center / Regional Breeding Office / Forest Bio-Research Center (Head Office: Hitachi City)
- Center for Forestry and Agriculture Development (Head Office: Kawasaki City)

- Director-General
- General Affairs Division
- Operation Division
- Information Service Expert
- Team Leader (Environmental Education Capability Assessment
- Team Leader (Urban Natural History)
- Educational Resources Research Group
- Renkoji Experimental Forest (Tama City)
- Akanuma Experimental Forest (Hatoyama Town)

## Open to Public

Since April 1992, certain parts of the Garden have become open to the public. These public zones are the Forest Science Museum, the Cherry Tree Preservation Forest, and the Arboretums.

Forest Science Museum
The Forest Science Museum exhibits the Forestry and Forest Products Research Institute's research to the public and additionally, plays the role of a base for transmission of scientific and technological information pertaining to forests, forestry and the wood industry.

Forest Lectures (10 held per year)
These lectures explain the Research Institute's various research programs in readily, understandable terms.

Forest Classes (several held per year)
Participants observe nature while walking around inside the Garden.

Lectures and Learning Spots
Short lectures are available at any time at the Forest Science Museum and elsewhere in the Garden. Also provided are information signs at locations such as the Learning Spots.


Forest Science Museum (study hall)

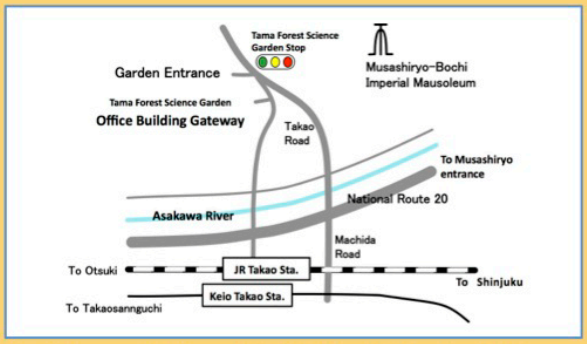

Learning Spot about insects


Learning Spot about flying squirrels


Incorporated Administrative Agency
Forestry and Forest Products Research Institute

**Tama Forest Science Garden**

1833-81 Todori-machi, Hachioji, Tokyo 193-0843 JAPAN
Tel: 0426 61 1121
Fax: 0426 61 5241
http://www.ffpri-tmk.go.jp/index-j.html
(Tour inquiries telephone number: 0426 61 0200)


●10 minutes on foot from JR/Keio Takao Station North Entrance