

FLORA AND FAUNA

Diversity and regional uniqueness



Japanese cranes, Kushiro Swamp (Hokkaido Pref.)
 A protected species in Japan, this rare crane breeds only in Siberia and Hokkaido.
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The Flora of Japan

The flora of Japan is marked by a large variety of species. There are about 4,500 native plant species in Japan (3,950 angiosperms, 40 gymnosperms, 500 ferns). Some 1,600 angiosperms and gymnosperms are indigenous to Japan.

The large number of plants reflects the great diversity of climate that characterizes the Japanese archipelago, which stretches some 3,500 kilometers (2,175 miles) from north to south. The most remarkable climatic features are the wide range of temperatures and significant rainfall, both of which make for a rich abundance of flora. The climate also accounts for the fact that almost 70% of Japan

is covered by forest. Foliage changes color from season to season.

Plants are distributed in the following five zones, all of which lie in the East Asian temperate zone: (1) the subtropical zone, including the Ryukyu and Ogasawara islands groups (2) the warm-temperature zone of broad-leaved evergreen forests, which covers the greater part of southern Honshu, Shikoku, and Kyushu; characteristic trees are *shii* and *kashi*, both a type of oak (3) the cool-temperature zone of broad-leaved deciduous forests, which covers central and northern Honshu and the southeastern part of Hokkaido; Japanese beech and other common varieties of trees are found here (4) the subalpine zone, which includes central and

northern Hokkaido; characteristic plants are the Sakhalan fir and Yesso spruce (5) the alpine zone in the highlands of central Honshu and the central portion of Hokkaido; characteristic plants are alpine plants, such as *komakusa* (*Dicentra peregrina*).

Typical Plants in Japan

Matsu and *sugi*, Japanese pine and cedar, respectively, are common throughout the Japanese archipelago—even in warm southern regions—and are very familiar to the Japanese people.

Pines often make splendid scenery. The most notable scenic spot is Amanohashidate, in Kyoto Prefecture, with more than 6,000 pine trees forming lines on the sandbar. Large pine trees, which grow to a maximum height of about 40 meters, also serve as a windbreak in coastal areas. Small pines are used as *bonsai*, garden trees, and materials for houses and furniture.

Pines are also considered to be holy trees. People in the olden days were awed by nature and saw in plants and trees symbols of divine spirits. At one time, for example, it was common to worship evergreen trees such as pine, cedar, and cypress because they were thought to provide habitation to heaven-sent deities. The still-common practice of decorating the entrance-ways of houses at New Year's with pine branches—*kadomatsu*, literally “gate pine”—comes from the belief that this was an appropriate way to welcome the gods.

Flora in Everyday Life

If there is a plant that best represents Japan, it is the *sakura* (cherry tree). The *sakura*, which is native to Japan, has been by far the Japanese people's favorite from antiquity onward. Modern-day Japanese greet the blossoming of cherry trees in spring as an opportunity to have *hanami* (flower-viewing parties), and many celebrations such as entrance ceremonies to schools and companies are held during this season. Weather forecasts on television and in newspapers broadcast and print charts of the



Cedar (Kagoshima Pref.)
Known as the Jomon Cedar, this tree on the island of Yakushima has a girth of 16.4 meters and has been estimated to be up to 7,200 years old.
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“cherry blossom front” as it moves northwards from Okinawa and ends in Hokkaido.

Autumn, when leaves change color, offers another occasion to appreciate nature. Although it is said that people hundreds of years ago would play music and dance beneath the trees, today's mostly urban Japanese pile into cars and trains in search of autumn's colors, especially those of the maple tree.

Ecological Concerns

In today's industrialized Japan, plants do not represent what they did nor do they have the same level of importance as in days gone by. After much exploitation of nature, the heedless cutting down of trees, and the spread of pollution, people have generally come to understand that they must conserve and rehabilitate the natural environment.

According to an investigation conducted by the Environment Agency in 1991, 35 species were classified as extinct, 147 as endangered, and 678 as vulnerable. Among the endangered species are *fujibakama* (*Eupatorium japonicum*),

atsumorisou (*Cypripedium macranthum*), and *marimo* (*Cladophora aegagropila*). Plants familiar to the Japanese people, such as *sakurasou* (*Primula sieboldii*) and *murasaki* (*Lithospermum officinale*) are included in the vulnerable category.

The Fauna of Japan

Many species and relicts not found in neighboring countries are included in Japan's fauna.

Just as its plant life is greatly diversified thanks to widely differing climatic conditions from north to south, so are the Japanese islands inhabited by animals from contrasting climates: Southeast Asiatic tropical animals, temperate-zone Korean and Chinese animals, and Siberian subarctic animals.

Brightly colored tropical coral fish, turtles, and sea snakes flourish in the tropical sea of the Ryukyu Islands, which is also home to the dugong and the black finless porpoise. In the sea to the north of central Honshu we find sea lions, fur seals, and beaked whales. Arctic-region animals such as the walrus sometimes visit Hokkaido, the northeastern side of which faces the Sea of Okhotsk.

On land in Japan's southern extremity, the Ryukyu Islands are inhabited mostly by tropical animals such as the crested serpent eagle, the flying fox, and the variable lizard.

On the mainland islands of Honshu, Shikoku, and Kyushu wander *tanuki* (raccoon dogs), sika deer, and mandarin ducks, which are from the deciduous forests of Korea as well as central and northern China. From the Siberian coniferous forests come the brown bear, hazel grouse, and common lizard.

The distribution of animals tends not to be continuous because historically the Japanese islands have repeatedly separated from and rejoined the Asian continent, resulting in animal migration that is extremely complex. Furthermore, the animals found in a particular part of Japan are not always the same as those found in corresponding areas of the continent; many are found only in Japan.

Among the species that are endemic to the Japanese mainland are the Japanese dormouse,



the Japanese macaque, the copper pheasant, the Japanese giant salamander, and the primitive dragonfly. Likewise, in the Ryukyu Islands, which scholars believe became separated from the continent much earlier than the mainland did, live Pryer's woodpecker and the Amami spiny mouse. The Shimokita Peninsula, at the northern end of Honshu, is the northernmost habitat in the world of any simian.

In the depth of the sea, such living fossils as the horseshoe crab, the slit shell, and the frilled shark can be found. Still other Japanese aquatic animals are the giant spider crab (the largest crustacean in the world) and the freshwater Japanese giant salamander (the largest amphibian on earth, also said to live almost 50 years).

Asian land salamanders, cicadas, and dragonflies inhabit the islands in many forms. There are eight species of swallowtail butterflies on the mainland alone.

Many animals in Japan, however, are facing extinction. According to a report by the Environment Agency in 1991, 22 species were classified as extinct, 72 as endangered, and 65 as vulnerable. Moreover, the Japanese crested ibis (*Nipponia nippon*) became extinct in 1997. Among the endangered species are, for example, the Iriomote cat (*Mayailurus iriomotensis*), Japanese otter (*Lutra nippon*), albatross (*Diomedea albatrus*), and stork (*Ciconia*

Cherry blossom viewing

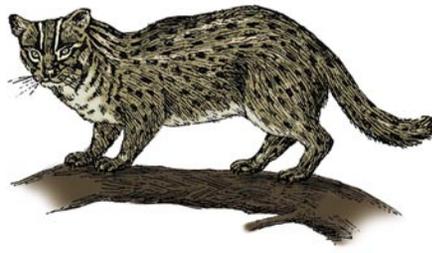
It is the custom in April and May, when the cherry trees are in blossom, to picnic beneath their spreading boughs. Among places famed for the beauty of their cherry blossoms are Ueno Park (Tokyo) and Osaka Castle Park (Osaka).

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A field of *sakurasou*, a type of primrose.

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Iriomote cat

Found only on the island Iriomotejima (Okinawa Pref.), the species was first identified in 1967. Its body length is 60 cm.

ciconia boyciana).

Animals and Japanese Culture

Animals figure importantly in the culture of Japan. Chinese classical literature is the source of many of the beliefs embraced by the Japanese about various animals. In the protohistoric and ancient periods, the Japanese elite adopted from the Chinese such traditional animal symbols as cranes and turtles (for happiness and longevity) and swallows (for a faithful return).

Certain animals have special places in the folklore of Japan. The *tanuki* (raccoon dog), often seen near villages, has traditionally been thought of as a weird creature with supernatural powers. In stories of old it often bewitches people, although its tricks are more frightening than harmful. In fact, it is usually depicted in figurines as a rather comical animal with a big belly and huge testicles, carrying a *sake* bottle.

The fox has also been considered an animal with supernatural powers, and a messenger of Inari Myojin, the deity of agriculture. Foxes are thought to be clever and tricky. In the olden days they were said to cast a spell on people traveling at night. Sometimes, it was said, foxes would even possess people and make them insane. Belief in Inari still exists today, and the fox is worshipped at Inari shrines throughout the country.

Buddhist teachings have influenced people's attitudes toward animals. Until late in the nineteenth century, for example, almost no Japanese would slaughter a 4-legged animal, relying instead on fish for their animal protein. Then there is the sexagenary cycle of the ancient Chinese calendrical system, in which 1 animal (rat, ox, tiger, rabbit, dragon, snake, horse, sheep, monkey, cock, dog, and boar) represents each subcycle of 12 years.

The year 1998 is the year of the tiger, and the next year, the rabbit. Even in today's Japan, virtually everyone associates his or her birth year with a particular animal—saying, for example, “I was born in the year of the horse”—and it is assumed that one's character and fortune in life are influenced by the animal representative of their birth year.

World Heritage

Out of 8 places in Japan that were declared UNESCO World Heritage locations, 2 are closely related to plants and animals. One is the Shirakami Sanchi, the general name of the mountainous area of approximately 130,000 hectares in the north of Honshu. This region is one of Japan's very few remaining natural forests, consisting primarily of beech trees. The Shirakami Sanchi beech forests boast a healthy diversity of approximately 500 species of vegetation. The region is also home to many vertebrates, including 2 of Japan's indigenous mammals, the Japanese serow and the Japanese macaque, and birds like the *inuwashii*, *kumagera* and *kumatataka* that are threatened with extinction.

Yakushima, another World Natural Heritage site, is an island located to the south of Kyushu. The island enjoys a wide variety of tree species, from subtropical evergreen trees at sea level to sub-arctic plants in the inland mountainous region. Perhaps the most outstanding natural phenomenon found in Yakushima, however, are the ancient *yakusugi* trees (cedars native to Yakushima) which are famous for their extraordinary longevity. The oldest is probably the Jomon Cedar, which has been estimated as being up to 7,200 years old and has a circumference of 16.4 meters. Yakushima is also home to birds like the *akahige* and *akakokko*, which are threatened with extinction.



Ceramic *tanuki* (raccoon dogs) wearing straw hats and holding sake jugs were traditionally placed outside drinking establishments.
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