Jgasawara Islands

Outstanding Universal Value / Valeur universelle exceptionnelle

💉 (ix) Ecosystem / Ecosystème

*Iles océaniques : îles qui n'ont jamais été reliées au continent

Remarkably high rate of endemic species and ongoing evolutionary process on the oceanic islands* *Oceanic islands: Islands that have never been connected to a continent

() 书

Call and the second should be a second second second

Taux remarquablement élevé d'espèces endémiques, et processus d'évolution en cours sur ces îles océaniques

A Treasure Trove of Endemic Species

The Ogasawara Islands are located about 1,000 km away from Tokyo to the south. They consist of islands that are surrounded by vertical cliffs and ocean whose beautiful color is referred to as "Bonin Blue".

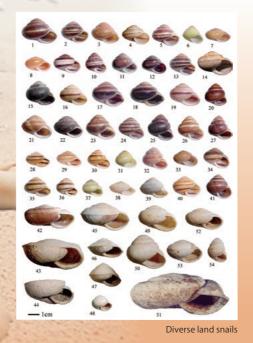
Since the islands have never bordered a continent in their history, the wildlife species found in Ogasawara are the descendents of animals and plants that arrived there by chance. Some were carried by birds or the wind, while others were washed up by ocean currents or clung to driftwood. Those species have survived by adapting themselves to the environment of the islands. They then became established on the islands and evolved in their own unique ways in a long period of time within an environment far separated from the mainland. As a result, this led to the occurrence of many endemic species which are not to be seen anywhere else, such as Melastoma tetramerum and Hemicordulia ogasawarensis. Roughly 40% of the vascular plants, about 25% of the insects, and more than 90% of the land snails (roughly 100 species) are endemic to Ogasawara.

Ongoing Evolutionary Process

The evolutionary process on the Ogasawara Islands is presently ongoing. The land snails and plants in particular have repeatedly undergone speciation by changing their morphology in accordance with their environment. This type of evolutionary process is called "adaptive radiation."

What is more, important examples that suggest mechanisms whereby species adapting from the ocean to the land can also be observed. As an example, Stenomelania boninensis is thought to have expanded their habitats in coastal to brackish water and then on to purely freshwater environments.





The Ecosystem Conservation Action Plan, which denotes a specific plan of action for resolving ecosystem-related challenges on the Ogasawara Islands, was prepared by the national government, the Tokyo Metropolitan Government, and Ogasawara Village. On the basis of this plan, protection and management efforts are being promoted.

The large number of endemic species on the Ogasawara Islands is highly evaluated internationally. Yet many of those do not know how to protect themselves from the species artificially introduced to Ogasawara later on. The endemic species are being preved upon by the alien species and deprived of the areas where they live, so their numbers are plunging precipitously. In order to preserve the Outstanding Universal Value of the Ogasawara Islands, it is extremely important that countermeasures be taken against alien species and that the protection of endemic species and other rare species be promoted. In line with the advice of the Scientific Committee, adaptive management is carried out that evaluates the current situation by considering the interaction of wildlife and accordingly adjusting countermeasures.

Examples of Efforts / Exemples d'actions



Countermeasures against Alien Vegetation

Mesures contre les espèces végétales exotiques

to eradicate alien

plants such as by

injecting chemicals

into tree trunks.

Green anole (alien species)

Measures for the Restoration of **Endemic Insect Species** Mesures pour le rétablissement des

espèces endémiques d'insectes The invasive green anole is found throughout Chichijima and Hahajima islands. Preying on and reducing populations of rare endemic insect species including the endemic lycaenid butterfly, the green anole has had a devastating impact. In 2013, it was found to have reached the southern areas of Anijima Island, where unique endemic insect fauna remain. raising concerns about its impact on endemic tiger beetles and other endemic insect

species To protect the ecosystem in the heritage site, enclosures to prevent incursion by green anoles have been set up at Shin-yuhigaoka on Hahajima Island. The intensive control measures within these enclosures have led to the recovery of endemic insects. On Anijima Island, efforts are being made to control the expansion of anole habitat by installing anole fences across the island and capturing anoles using adhesive traps. In addition, monitoring of anole invasion and insect habitat is conducted to conserve endemic insect fauna.



goats have been set up

Protection and Management of the Ogasawara Islands Protection du Patrimoine Naturel Mondial de Îles d'Ogasawara

,		
1		

Protected	Areas	in	the	Property	

1	Ogasawara National Park Special Protection Zone :	4,934 ha
	Special Zone :	996 ha
	Minami-iwoto Wilderness Area :	355 ha

(Under jurisdiction of MOE)

Species for the Restoration of Native

Mesures contre les espèces végétales exotiques pour la restauration de la végétation indigène **Countermeasures against Alien Plant Species**

The proliferation of alien plant species like sheoak, white leadtree, and Bishop wood inhibits native plant growth by altering the forest interior, including blocking out sunlight and breezes. These alien plant species also affect the habitat of endemic insect species-for example, by blocking sunlight and generating leaf litter. Efforts are being made



Sheoak (alien species **Countermeasures against Feral Goats** Mesures contre les chèvres férales

Feral goats trample and forage on endemic species and other plants, activities that have enormous impact on ecosystems. Feral goats have been successfully eradicated from the uninhabited islands of the Ogasawara, and endemic vegetation is recovering in some locations. Currently, feral goats are found only on Chichijima Island. In Higashidaira area. where numerous endemic plant species are found, fences to prevent incursion by feral



Fence to prevent feral goats



Measures to Conserve Endemic Land Snails Mesures pour la protection des

espèces endémiques d'escargots terrestres

Endemic land snails inhabiting the Ogasawara Islands are under threat of extinction due to predation by alien rodent species such as the black rat and alien planarian species. Various measures have been taken to prevent land snails from becoming extinct, including the use of rodenticide to eradicate black rats and installation of enclosures to prevent incursion by planarians, as well as informing visitors and islanders about shoe sole washing to prevent the spread of planarians.

In addition, the Ministry of the Environment has been rearing land snails at indoor and outdoor captive facilities on Chichijima Island since 2011 as an ex-situ conservation measure. In 2020, an ex-situ population of land snails (Mandarina chichijimana and M. hirasei) were released into the wild on Tat-

sumijima Island, an island belonging to Chichijima Island

Mud washing mats