Invasive Aliens in the Ogasawara Islands, a new world natural heritage in Japan

Isamu Okochi [a]

[a] Forestry and Forest Products Research Institute, JAPAN

Oceanic island ecosystems are known to be highly susceptible to alien invasive species. The Ogasawara islands, located 1000km south of Tokyo, are one such group of islands. Since the islands are in close proximity to Japan, invasion of aliens has been closely associated with Japanese history. The islands were discovered by a Japanese lord, Ogasawara, in 1593, but were not settled for another 300 years. The first settlers were from Hawaii, of both western and Hawaiian origin. They brought with them goats, pigs, cows, chickens, cats, rats, and crops including sugar cane. At least one endemic bird and a large endemic land snail became extinct at this time. After this, the Japanese also colonized the islands. They brought fast growing trees to plant for fuel wood, which was necessary to refine sugar. They also brought the cane toad, American bullfrog, tilapia and the giant African snail, all of which were thought to be useful at the time. Again, several endemic species and subspecies of bird became extinct as a result. After World War II, the islands were occupied by the USA and all Japanese were removed. During this period, invasive aliens again expanded their range, with an alien lizard, the green anole, invading from North America and causing a drastic decline of insects. The islands were returned to Japanese ownership in 1968 and some new aliens arrived with the return of the Japanese. A New Guinean flatworm is the most serious example of these new invaders, and which is causing the decline and extinction of many endemic snails. Recently, the Japanese national government and the Tokyo metropolitan government have tried to exclude or to control these aliens. However, eradication of one alien species sometimes causes an increase of other aliens through competition and/or knock-on effects on the food chain. Therefore, careful planning with a special focus on the interspecific relationships in the ecosystem is required before eradication. This island group was listed as world natural heritage area in 2011, since the control of the aliens has been largely successful.

Corresponding Author:
Dr. IsamuOKOCHI
Vice President
Forestry and Forest Products Research Institute
1 Matsunosato, Tsukuba-city, Ibaraki305-8687, JAPAN
e-mail: ohkou04@affrc.go.jp