

CASE STUDY: FERAL NON-JAPANESE MONKEYS

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Adverse effects on the ecosystem caused by exotic species have evoked controversy in Japan. Prevention and removal of those effects caused by introduced exotic species through human activity were declared in the “Invasive Alien Species Act” enacted by the government in 2004. The Japanese macaque has drawn special attention because of its hybridization with closely related macaque species brought and released by humans in the country. Invasion by exotic macaque species has been monitored by genetic assessment with molecular markers. Application of sex-specific markers such as maternally inherited mitochondrial DNA and paternally inherited Y-chromosomal DNA have significant roles in analyzing the causes and effects of the man-made change. Species-specific nuclear markers are also important to evaluate the degree of hybridization. Five feral populations of exotic macaques (Taiwanese and rhesus macaques) have been reported in Japan, three of which were confirmed to be hybrids with Japanese macaques. All cases of the hybridization seem to be initiated by adult male transfer from Japanese macaques to the exotic species group. There are no significant deleterious effects on reproduction in the hybrid populations, suggesting the lack of a reproductive isolation mechanism between those species. However, the degrees of hybridization vary among populations. Based on government policy, population monitoring and eradication by euthanasia have been conducted mainly by provincial authorities in the distribution areas of exotic macaques toward the goal of complete eradication.

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