

Tatsuno defiled Matsuo-kyo Sanctuary for fireflies

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April 17, 2025

Abstract

This summary presents a controversial issue in firefly-watching tourism in Japan by reporting a case of Tatsuno Town, Nagano Prefecture. In this town, alien fireflies were intentionally introduced for the purpose of firefly-watching tourism, thereby driving native fireflies to extinction there.

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Key words: Japan, Tatsuno, firefly, invasive alien, tourism

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History of introducing alien fireflies rather than preserving native fireflies

Matsuo-kyo (35.992°N, 138.001°E, Matsuo valley, Tatsuno, Japan) had been a famous sanctuary for Genji-botaru fireflies (*Nipponoluciola cruciata*) and therefore designated as a natural monument by the Nagano Prefectural Government since 1926. Currently, however, Matsuo-kyo is well known as one of the largest artificial breeding areas for alien Genji fireflies (Figure 1).



Figure 1. Matsuo-kyo artificial breeding area for alien Genji-botaru fireflies

The Tatsuno town government intentionally and repeatedly introduced many non-native alien fireflies in the 1960's to attract the attention of tourists as well as local people, thereby driving native fireflies to extinction there (Iguchi, 2003, 2009; Hiyori et al., 2010). The government, however, had not disclosed the introduction and breeding of alien fireflies to tourists (Iguchi, 2017). Instead, the government advertised as if native fireflies had been preserved for many years (Iguchi, 2017). This extinction of native fireflies due to invasive alien fireflies in Tatsuno has been also noticed by foreign researchers (Haugan, 2019; Thancharoen, 2021).

As a famous Japanese cultural entomologist Kenta Takada (2010, 2011) pointed out, fireflies

are certainly the most popular insects in Japan, and their popularity has also attracted attention from abroad (Haugan, 2019; Lewis, 2021). Therefore, the Tatsuno town government has increased their numbers and taken no active measures to avoid or mitigate the spread of alien fireflies. It does not matter to the town government whether fireflies are native or alien. Its tourism strategy is only to make large profits from their popularity.

Yet biodiversity conservation is a challenging and important task for our modern society. The following suggestion by Takada (2012) should be noted:

“Although the Japanese recently become interested in the conservation of diverse insects and nature to a slight degree, the Japanese may need to acquire taxonomical, ethical and ecological perspectives through environmental education to become true insect lovers and to follow sound resource conservation and management practices for Japanese nature.”

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