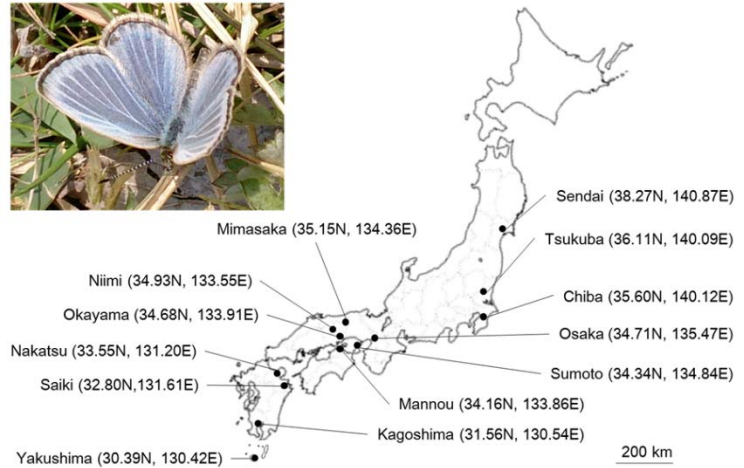


■ Research Highlights

Wolbachia bacterium density changes seasonally in butterflies

The survival rate of *Wolbachia*—a common bacterium—decreases under high temperature in incubators. However, few studies have examined the density of *Wolbachia* in hosts in the field.

Here, Takuto Sumi and colleagues at Okayama University focus on *Wolbachia* infection of the pale grass blue butterfly that is found throughout the Japanese archipelago.



Collection points (filled circles) of *Z. maha* in Japan

The researchers examined the rate and density of *Wolbachia* infection in the bodies of butterflies at thirteen locations in Japan. At seven of these places, the scientists collected butterflies in different seasons to determine seasonal differences in the infection rate and density and found the *Wolbachia* density to exhibit seasonal differences within the same population.

Moreover, to determine whether *Wolbachia* density had a geographical cline, the team compared the infection density of *Wolbachia* amongst all geographical populations. In addition, they determined the sequences of *Wolbachia* *wsp* and host mtDNA CO1 haplotypes of all populations.

The results showed the *Wolbachia* density to increase in early summer and decrease in autumn.

Further, the density of *Wolbachia* infecting the same strain of *Z. maha* varied amongst populations, although no tendency in geographical cline was observed.

Reference:

Authors

Takuto Sumi, Kazuki Miura, and Takahisa Miyatake.

Title of original paper

Wolbachia density changes seasonally amongst populations of the pale grass blue butterfly, *Zizeeria maha* (Lepidoptera: Lycaenidae).

Journal

PLOS ONE, April 12 (2017).

Digital Object Identifier (DOI)
10.1371/journal.pone.0175373

Journal website
<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0175373>



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