



PRESS RELEASE (2020/07/28)

Coastal beetles may be spanning oceans just by floating themselves across

Study shows that some insects can survive floating on sea water for several weeks

For flightless insects, the ocean would seem like a strong barrier to migration. Yet despite the odds, some such insects have been found to be widely distributed across oceans.

Research from Kyushu University now suggests that the key might be an insect's ability to make the long trip just by floating.

To investigate how insects can cross the sea, researchers measured how long nine coastal beetle species could survive floating in sea water. For three out of the nine species, half of the observed beetles survived longer than ten days, and some beetles even lasted nearly one month.

This ability to survive such unexpectedly long periods on the sea water indicates that individual beetles may be able to cross the ocean simply by floating and being carried by the current on the sea surface—a process termed 'floating dispersal.'

"This provides a novel explanation for the trans-oceanic migration of flightless animals in coastal areas," says Kei Matsubayashi, assistant professor of the Faculty of Arts and Science and leader of the study published in *Entomological Science*.

Rough estimates suggest that insects surviving one month at sea could possibly travel well over 1,000 km in this way.

"Frequent dispersion by ocean currents could be a hidden route for alien species and agricultural pests that should be more closely considered in the future," explains Matsubayashi.

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For more information about this research, see "Unexpectedly long survivorships on the sea water of multiple coastal beetles indicate the possibility of 'floating dispersal' for trans-oceanic migration" by Hiroto Ueno, Kosaku Kitagawa, and Kei W. Matsubayashi, *Entomological Science* (2020), <https://doi.org/10.1111/ens.12424>



Fig. 1. *Phelopatrum scaphoides* floating on sea water.

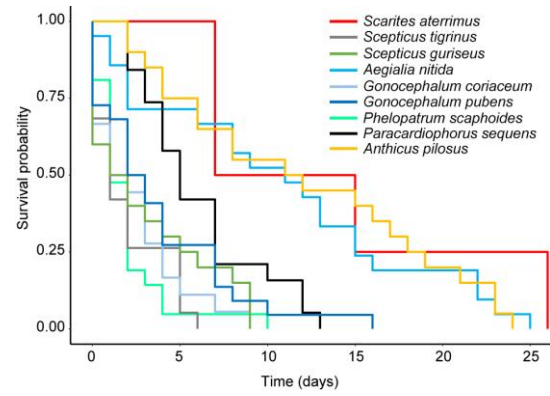


Fig. 2. Survival curves of nine coastal beetle species on the sea water.

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