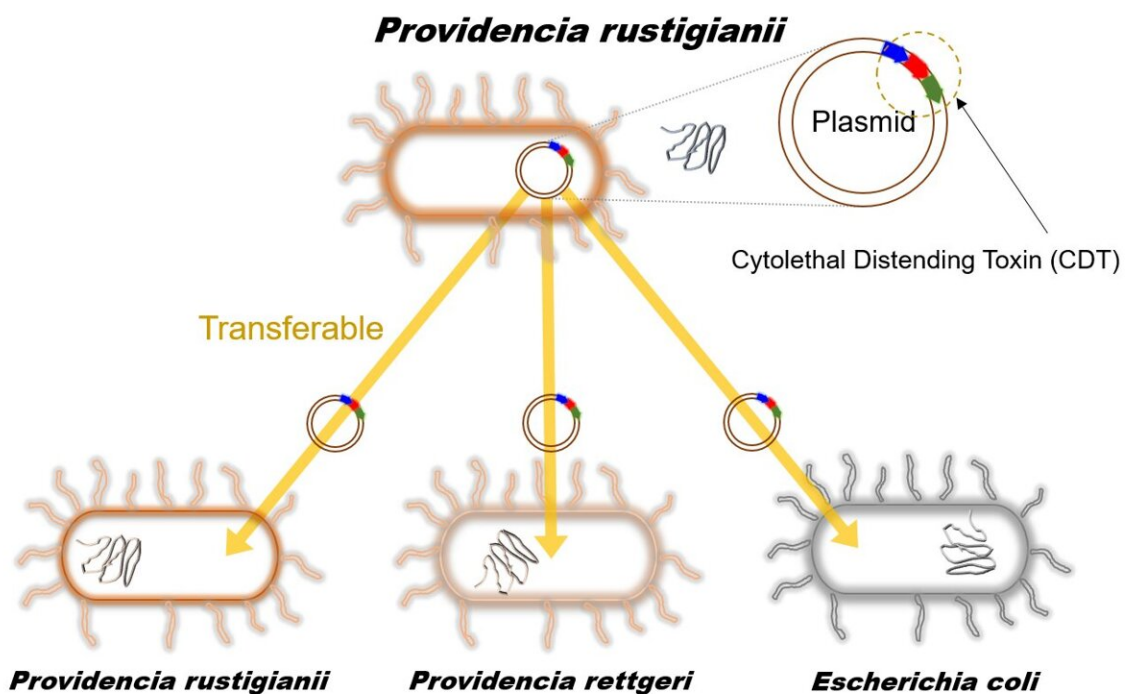


Study provides new insights on bacteria that cause food poisoning

June 16 2023



The pathogenic genes of *Providencia rustigianii* can be transferred to Enterobacteriaceae as well. Credit: Shinji Yamasaki, Osaka Metropolitan University

Recently, *Providencia* spp. which have been detected in patients with

gastroenteritis, and similar to enterohemorrhagic *Escherichia coli*. O157 and *Salmonella* spp., have been attracting attention as causative agents of food poisoning.

For children with low immunity, [food poisoning](#) can be lethal as it causes [severe symptoms](#) such as diarrhea and dehydration, so clarifying the source of infection and pathogenic factors of *Providencia* spp., and establishing preventive methods are urgent issues worldwide.

A joint research group led by Professor Shinji Yamasaki, Dr. Sharda Prasad Awasthi, a Specially Appointed Lecturer, and graduate student Jayedul Hassan from the Graduate School of Veterinary Science, Osaka Metropolitan University, determined how the pathogenic genes in some *Providencia* spp. such as *Providencia alcalifaciens* and *Providencia rustigianii* are transferred within bacterial cells of genus *Providencia*. The group elucidated that the pathogenic genes of *Providencia rustigianii* are also transferred to other [bacterial cells](#) belonging to Enterobacteriaceae.

Professor Yamasaki concluded, "This [achievement](#) is expected to provide new insights into the identification of infection routes of *Providencia* spp. and the establishment of preventive methods for food poisoning." The findings were published in *Infection and Immunity*.

More information: Jayedul Hassan et al, Presence of Functionally Active Cytolethal Distending Toxin Genes on a Conjugative Plasmid in a Clinical Isolate of *Providencia rustigianii*, *Infection and Immunity* (2023). [DOI: 10.1128/iai.00121-22](https://doi.org/10.1128/iai.00121-22)

Provided by Osaka Metropolitan University

Citation: Study provides new insights on bacteria that cause food poisoning (2023, June 16)
retrieved 2 May 2024 from <https://phys.org/news/2023-06-insights-bacteria-food-poisoning.html>

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