

BPoD

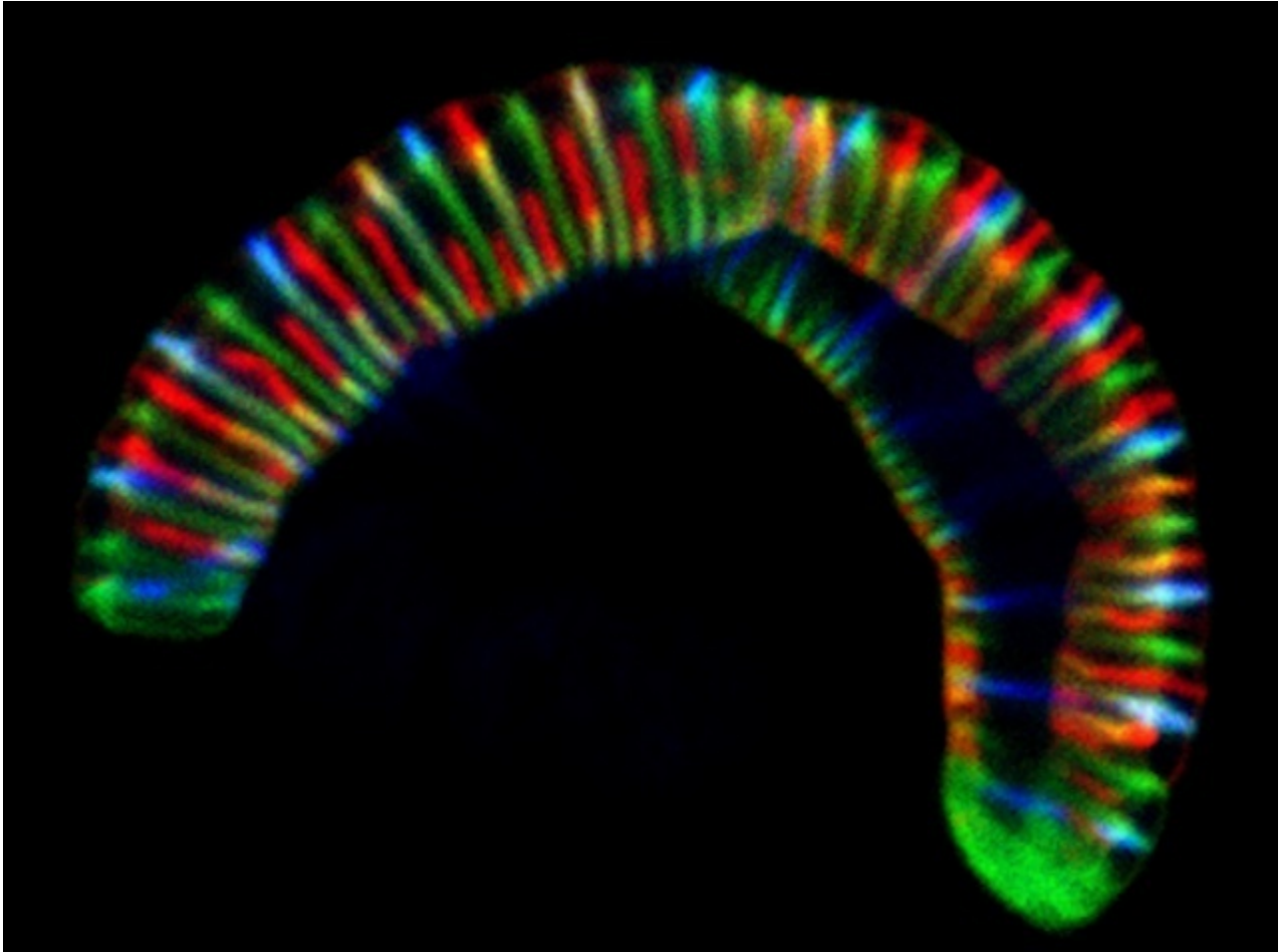
BIOMEDICAL
PICTURE OF
THE DAY

(<http://bpod.mrc.ac.uk/>)



MRC London
Institute of
Medical Sciences (<http://www.lms.mrc.ac.uk/>)

Now in our 12th year of bringing you beautiful imagery from biomedical science every day



Insight into the evolution and adaptability of human-symbiont bacteria that divide lengthways
10 September 2022

Watch Your Mouth

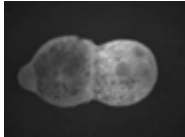
It's not easy, living in a mouth. Aside from the constant threat of chomping, or being washed away with a meal, the skin cells available to cling to are constantly shed and replaced. Despite this, the thriving **bacterial communities** (https://en.wikipedia.org/wiki/Oral_ecology) in our mouths rival those in our guts – and this *Conchiformibius steedae* bacterium may hold clues to why. Unlike many **rod-shaped bacteria** ([https://en.wikipedia.org/wiki/Bacillus_\(shape\)](https://en.wikipedia.org/wiki/Bacillus_(shape))) its cells divide longitudinally (splitting lengthways like a chopped log) and remain stuck together after division forming multicellular **filaments**. Here, differently-coloured fluorescent stains highlight spines between cells in the overall structure – which can grow to the size of small caterpillars. *C. steedae*'s cells work together – researchers believe this is key to how they adapt to the harsh oral environment. They may make fascinating model organisms to design and test new **antimicrobial drugs** (<https://en.wikipedia.org/wiki/Antimicrobial>) – and they're easily found, around half of us may have *C. steedae* in our mouths.

Written by John Ankers

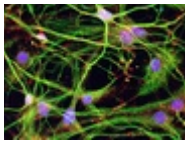
- Image from work by Sammy Nyongesa and Philipp M. Weber, and colleagues (<http://fveyrier.profs.inrs.ca/>)
- Department of Functional and Evolutionary Ecology, Environmental Cell Biology Group, University of Vienna, Vienna, Vienna, Austria & INRS-Centre Armand-Frappier Santé Biotechnologie, Bacterial Symbionts Evolution, Laval, QC, Canada (<https://archaea.univie.ac.at/research/silvia-bulgheresi-lab/>)
-
- Image originally published with a Creative Commons Attribution 4.0 International (CC BY 4.0) (<http://creativecommons.org/licenses/by/4.0/>)
- Published in Nature Communications, August 2022 (<https://doi.org/10.1038/s41467-022-32260-w>)

Search The Archive (<http://bpod.mrc.ac.uk/archive>)

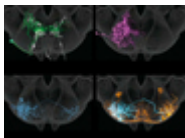
Submit An Image (<http://bpod.mrc.ac.uk/contribute>)



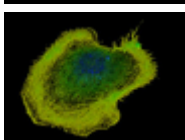
- (<http://bpod.mrc.ac.uk/archive/2022/9/9>)



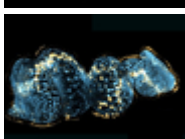
- (<http://bpod.mrc.ac.uk/archive/2022/9/8>)



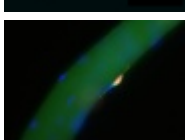
- (<http://bpod.mrc.ac.uk/archive/2022/9/7>)



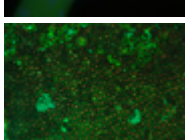
- (<http://bpod.mrc.ac.uk/archive/2022/9/6>)



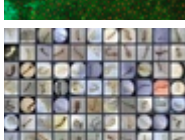
- (<http://bpod.mrc.ac.uk/archive/2022/9/5>)



- (<http://bpod.mrc.ac.uk/archive/2022/9/4>)



- (<http://bpod.mrc.ac.uk/archive/2022/9/3>)



- (<http://bpod.mrc.ac.uk/archive/2022/9/2>)



- (<http://bpod.mrc.ac.uk/archive/2022/9/1>)

Like us on Facebook

(<http://www.facebook.com/pages/BPoD/308439772532589>)

Follow on Twitter (http://www.twitter.com/BPoD_mrc)

What is BPoD?

BPoD stands for Biomedical Picture of the Day. Managed by the **MRC London Institute of Medical Sciences** (<http://www.lms.mrc.ac.uk/>) the website aims to engage everyone, young and old, in the wonders of biomedicine. Images are kindly provided for inclusion on this website through the generosity of scientists across the globe.

Read More (<http://bpod.mrc.ac.uk/about>)

BPoD is also available in Catalan at www.bpod.cat (<http://www.bpod.cat/>) with translations by the University of Valencia.

Text copyright associated with the images is owned by the MRC