

Interactive comment on “Bacteria in the global atmosphere – Part 1: Review and synthesis of literature data for different ecosystems” by S. M. Burrows et al.

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Received and published: 13 May 2009

This paper is an excellent review of the published measurements of total and culturable bacteria concentrations in the atmospheric aerosol. It presents a very comprehensive collection of the scarce and scattered data available on bacteria in the atmosphere today.

General comment:

I suggest that the authors explain more clearly whether by bacteria they mean any bacteria found in the atmosphere in general, or just those species, which exhibit ice nucleating abilities.

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Specific comments:

Page 10778, line 19: cite the source of the claim that “bacteria have a long residence time (of the order of several days)”

Page 10785, line 11: How does the Bowen ratio come into play for bacterial flux measurement? Is it not rather used to measure evapo-transpiration, as it is the ratio of sensible to latent heat fluxes from the Earth’s surface up into the air.

Page 10793: In line 19 you state that bacterial concentrations in rural areas are lower than in cities, yet in line 24 you write that “above crops, concentrations may be higher”. I would say that your second statement is correct, as I expect crops (and thus rural areas) to produce higher bacterial emissions than cities.

Page 10795, lines 1-9: The use of ratios for the coastal and rural sites as rough scaling factors for forest data seems very questionable, though I am aware that no other means of scaling was available.

Typographical error:

Page 10787, line 26: replace “hiher” with “higher”

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 10777, 2009.