

Reviewer Comments on Authors' Revisions

I would like to thank the authors of the manuscript entitled “*Influence of terrestrial and marine air-mass on the constituents and intermixing of bioaerosols over coastal atmosphere*” for taking the time to respond clearly and in detail to all the comments. I find that the manuscript has been significantly improved and, I believe, deserves to be published in Atmospheric Chemistry and Physics. That being said, I have additional comments that I would appreciate you considering.

L338-347 and answer to the comment 15 of the authors:

I am not criticizing the qPCR detection method at all, as it is a widely validated method in the literature. I am simply questioning the semantics used: qPCR does not provide information on the number of cells per m³ of air, but rather on the number of 16S genes, usually expressed as copies per m³ of air. Most bacteria have multiple copies of the 16S gene in their genome, ranging from 1 to 15. In your case, the methodology used (employing *E. coli* as a standard) allows you to approximate a cellular concentration, but it remains an estimation. I would rather refer to genome copies per m³ of air.

There are also many spelling errors and typos in this manuscript. I suggest a thorough review to correct them all. Here are the ones I noted:

L60: there is a comma missing after “*environment*”.

L71: “*maybe*” should read “*may be*”.

L74: seems there is a word missing after “*marine*”. Maybe the authors mean “*marine environment or surface*”?

L104: “*costal*” should read “*coastal*”.

L124: “*between January to March*” should read “*between January and March*” or “*from January to March*”.

L127: there is a comma missing after “*utilized*”.

L128: “*ion*” should read “*ions*”.

L132: the tilde should be replaced by “*to*” (7:00 to 18:30).

L161-162: “*metallic elementals*” should read “*metallic elements*”.

L169: “*were simulated one-hour intervals*” should read “*were simulated at one-hour intervals*”.

L176: “*and mixed air-mass sample*” should read “*and a mixed air-mass sample*” .

L227: “*Bacterial community functional was conducted*” should read “*Bacterial community functional analysis was conducted*”.

L228-229: “*other ecologically functions*” should read “*other ecological functions*”.

L234: « *Pathorotroph* » should read « *Pathotroph* ».

L235: “*different airmasses*” should read “*different air masses*”.

L247-248: “*microbial community and various environmental factors*” should read “*microbial community composition and various environmental factors*”.

L257: “*During reginal haze pollution*” should read “*During regional haze pollution*”.

L281: “*Cold northwestern airmass form the continent*” should read “*Cold northwestern airmass from the continent*”.

L288: “*northwestern airmass form the continent*” should read “*northwestern airmass from the continent*”.

L302: please replace “*succeeded*” by “*followed*”.

L309: “*with a range that from*” should read “*that ranged from*” or “*with a range of*”.

L310: “*ion*” should read “*ions*”.

L315: “*The concentration of K^+ $0.24 \pm 0.20 \mu\text{g}/\text{m}^3$* ” should read “*The concentration of K^+ was $0.24 \pm 0.20 \mu\text{g}/\text{m}^3$* ”.

L324: “*coal combination in winter heating*” probably did the authors mean “*coal combustion*”?

L356: “*in both terrestrial and mixed air-mass samples*” should read “*in both terrestrial and mixed air-masses samples*”.

L366: please replace “*including*” by “*included*”.

L372: “*to the previously studies*” should read “*to the previous studies*”.

L388: I guess that “*and automatic compound*” should read “*and aromatic compound*”.

L394: “*the prevalence of Saprotroph fungi was observed higher in samples*” should read “*the observed prevalence of Saprotroph fungi was higher in samples*”.

L406: there is one extra parenthesis.

L408: “*airmasses*” should read “*air masses*”.

L413: please replace “*conducted*” by “*shown*”.

L415: “*air mass*” should read “*air mass samples*”.

L467: “*automatic compound degradation bacteria*” should read “*aromatic compound degradation bacteria*”.

L482: “*diverse and abundance microbial populations*” should read “*diverse and abundant microbial populations*”.

L488-490: “*...accompanied the dust transportation to the downwind of Asian Dust including the coastal city of Weihai. Influenced by mixed air masses, bacterial community was 490 significantly positively correlated with K^+ ($P < 0.01$) and PM_{10} ($P < 0.05$)*”.

The sentence is weird.

L491: “*showed high positively correlated*” should read “*showed high positive correlation*” or “*were positively correlated*”.

L511: Replace “*Except*” » by “*Besides*”?

L517: “*temperature have*” should read “*temperature has*”.

L519: “*marine airmass samples*” should read “*marine air mass samples*”.