

Adding to the havoc: microbiology and management following natural disasters

İpek Kurtböke, Candan Çiçek and Ian Macreadie

This issue is dedicated to the memory of the victims of natural disasters

Following the successful special issue in 2014, jointly published with the Microbiology Societies of Australia, Türkiye and New Zealand,¹ the Microbiology Society of Australia has decided to publish another special issue with the Turkish Society of Microbiology as both countries have faced natural disasters simultaneously ranging from floods to earthquakes.

It is well documented that natural disasters can result in outbreaks of microbial diseases and the discipline of microbiology plays a significant role in surveillance, prevention and control. Post-natural disaster destruction of critical infrastructure and interruption to daily services can create a disease conducive environment where microorganisms thrive. Flooding, tornadoes, earthquakes, fires, volcanic eruptions, droughts, hurricanes and tsunamis can have a devastating effect on the local populations. Power shortages and lack of refrigeration can also facilitate microbial breeding. Over crowded living conditions in shelters, lack of sanitation and water supply as well as lack of vaccines and antibiotics can increase the severity of disease. Infections can also happen when injuries happen, and subsequent infections can occur. Emergency workers can also be affected along with the natural disaster victims. This special issue focuses on microbial diseases of post-disaster environments. Guest Editor, İpek Kurtböke, remembers her experiences of the devastating 1966 Varto earthquake in Türkiye as an elementary school child and fellow Guest Editor, Ian Macreadie, recalls the vulnerability of the emergency workers as he aided flood victims as an Emergency Services volunteer with the Australian Red Cross.

From Australia, Mark Blaskovich and Patrick Harris cover bugs in floods² and Timothy Ralf and Tsuyoshi Kobayashi discuss the impacts of floods on soil microbiology.³ Food safety is also another important risk factor in disaster-stricken areas and SP Singh provides an overview on how flooding adversely affects fresh produce safety.⁴ Heike Neumeister-Kemp, Lara M. Kemp and Natalie Tijssen provide information on mould contamination of dwellings after flooding,⁵ which can be an important health hazard in tropical regions.

From Türkiye, Fahri Yüce Ayhan emphasises the importance of the management in clinical laboratories and blood

banks.⁶ Yeşim Beşli and Banu Sancak provide an overview on gastrointestinal infections after the earthquake⁷ and Fadile Yıldız Zeyrek, Salim Yakut and Metin Korkmaz discuss vector-borne parasitic infections after the earthquake.⁸ Seyfi Durmaz, Gönül Aslan, Raika Durusoy and Candan Çiçek share their experiences on the 2020 İzmir earthquake and its impact on COVID-19 cases.⁹

The Turkish Society of Microbiology (TMC) was established in 1931. Prof. Candan Çiçek is currently the President of the Society (Türk Mikrobiyoloji Cemiyeti, see <https://www.tmc-online.org/>). It has 18 Special Interest Groups, ranging from antibiotic resistance to anaerobes to Tularemia to Virology. After the publication of the first special issue in 2014, ASM President Prof. Paul Young, *Microbiology Australia* Editor-in-Chief Prof. Ian Macreadie and *Microbiology Australia* Editorial Board Chair İpek Kurtböke attended the TMC-2014 Conference in Antalya, Türkiye, by the invitation of the TMC. This was reciprocated by the invited visit of Prof. Ahmet Başustaoglu in 2015 to the annual conference of the ASM in Canberra, Australia. Both societies continue to work for the same missions that is peace and harmony contributed with microbial power for sustainable futures and look forward to future joint publications.

References

1. Iredell J *et al.* (2014) Volume 35 Number 3. *Microbiol Aust* **35**(3), 117–179. doi:[10.1071/MAv35n3](https://doi.org/10.1071/MAv35n3)
2. Blaskovich MAT, Harris PNA (2023) Bugs in floods. *Microbiol Aust* **44**(4), 176–180. doi:[10.1071/MA23051](https://doi.org/10.1071/MA23051)
3. Ralph TJ, Kobayashi T (2023) Impact of inundation on soil microbiology. *Microbiol Aust* **44**(4), 181–184. doi:[10.1071/MA23052](https://doi.org/10.1071/MA23052)
4. Singh SP (2023) Flooding adversely affects fresh produce safety. *Microbiol Aust* **44**(4), 185–189. doi:[10.1071/MA23054](https://doi.org/10.1071/MA23054)
5. Neumeister-Kemp H *et al.* (2023) Mould contamination of dwellings after flooding. *Microbiol Aust* **44**(4), 202–206. doi:[10.1071/MA23053](https://doi.org/10.1071/MA23053)
6. Ayhan FY (2023) Disaster management in clinical laboratories and blood banks. *Microbiol Aust* **44**(4), 190–192. doi:[10.1071/MA23055](https://doi.org/10.1071/MA23055)
7. Beşli Y, Sancak B (2023) Gastrointestinal infections after earthquake. *Microbiol Aust* **44**(4), 193–196. doi:[10.1071/MA23057](https://doi.org/10.1071/MA23057)
8. Yıldız Zeyrek F *et al.* (2023) Vector-borne parasitic infections after the earthquake. *Microbiol Aust* **44**(4), 197–201. doi:[10.1071/MA23058](https://doi.org/10.1071/MA23058)
9. Durmaz S *et al.* (2023) 2020 İzmir earthquake and its impact on COVID-19 cases. *Microbiol Aust* **44**(4), 207–211. doi:[10.1071/MA2305](https://doi.org/10.1071/MA2305)