

# Chile at risk: the silent spread of *Aedes aegypti* and the need for proactive research investment

Cristian A. Alvarez Rojas

Escuela de Medicina Veterinaria, Facultad de Agronomía y Sistemas Naturales, Facultad de Ciencias Biológicas y Facultad de Medicina, Pontificia Universidad Católica de Chile, Santiago, Chile



The recent detection of *Aedes aegypti* in 2024,<sup>1</sup> a highly adaptable species, in urban areas of northern Chile marks an alarming yet foreseeable development in the ongoing expansion of this vector species. After more than 60 years of absence following its eradication in 1961,<sup>2</sup> *A. aegypti* was reintroduced in 2000 on Easter Island and detected in continental Chile in 2016 in the Arica region.<sup>3</sup> *A. aegypti* was re-detected in 2016 in the Arica and Parinacota Region—Chile's northernmost area bordering Peru and Bolivia—and, since 2023, in Los Andes, Valparaíso Region (near Santiago).<sup>2</sup> The most recent detection occurred in February 2025 at the Chile–Argentina border, prompting the temporary closure of the Los Libertadores international highway crossing.<sup>4</sup>

In the epidemiological week 42/2024 there were 288 dengue cases in Chile, all of them imported representing 317% more than seen in the same week in 2023 with 69 cases. In response to the detection of the vector, Chile declared a public health emergency via Decrees No. 12 and 28 in 2023 and Decree No. 52 in December 2024.<sup>5</sup>

This situation mirrors the trajectory seen in Argentina, where *A. aegypti* was reintroduced in 1986 after its 1960s eradication.<sup>6</sup> Since then, the mosquito has expanded southward, contributing to a sustained increase in dengue cases. Between August 2023 and June 2024 (epidemiological weeks 31/2023 to 25/2024), Argentina registered 531,617 dengue cases.<sup>7</sup> In 2024, the Americas recorded their worst dengue epidemic on record: more than 12.6 million cases and 7700 deaths—90% concentrated in Argentina, Brazil, Colombia, and Mexico.<sup>8</sup>

Despite the robust body of scientific knowledge on the ecological, climatic, and anthropogenic drivers of *A. aegypti* expansion,<sup>9</sup> research funding and vector surveillance initiatives in Chile remain critically limited. The country's geographic isolation, bounded by the Andes Mountains and the Pacific Ocean, was once seen as a natural barrier to pathogen and vector introduction. However, this assumption no longer holds in the face of globalization, climate change, and increased human mobility.

While cold winter temperatures in central and southern Chile may still restrict mosquito survival, northern and low-altitude areas present favorable

conditions for year-round vector persistence. Without local studies identifying ecological thresholds and risk zones, Chile risks replicating the delayed responses seen elsewhere in the region.

A preventive approach demands political will and scientific investment. There is an urgent need to fund interdisciplinary research and strengthen vector surveillance systems tailored to the Chilean context. This is essential not only to understand where and how *A. aegypti* is establishing, but to develop timely strategies that could delay, or potentially prevent, the emergence of autochthonous dengue transmission.

## Contributors

Cristian A. Alvarez Rojas conceived the idea and wrote and revise the letter.

## Declaration of interests

No conflict of interests.

## Acknowledgements

The study was not funded.

## References

- 1 MINSAL. In: Oficial Diario, ed. *Dispone medidas de orden y control ambiental*. Ministerio del Interior y Seguridad pública, Gobierno de Chile; 2024.
- 2 González CR, Henry AA, Reyes C, et al. Reintroduction of the invasive mosquito *Aedes aegypti* (Linnaeus) (Diptera: Culicidae) in northern Chile. *Idesia (Arica)*. 2016;34:49–53.
- 3 Estallo EL, Sippy R, Robert MA, et al. Increasing arbovirus risk in Chile and neighboring countries in the Southern Cone of South America. *Lancet Reg Health Am*. 2023;23.
- 4 Salud S. Realizan control del *Aedes aegypti* en el Complejo Fronterizo Los Libertadores; 2025 [cited 2025 10 of April]; Available from: <https://dpplosandes.dpp.gob.cl/2025/02/27/realizan-control-del-aedes-aegypti-en-el-complejo-fronterizo-los-libertadores/>.
- 5 MINSAL. In: Decreto 52, Salud Md, eds. *Modifica decreto n° 28, de 2023, del ministerio de salud, que decreta alerta sanitaria por el período que se señala y otorga facultades extraordinarias que indica por enfermedades vectoriales y zoonóticas emergentes que indica*. 2024.
- 6 Avilés G, Rangeón G, Vorndam V, et al. Dengue reemergence in Argentina. *Emerg Infect Dis J*. 1999;5(4):575.
- 7 Kantor IN. [Dengue in Argentina and current strategies for its control]. *Medicina (B Aires)*. 2024;84(4):787–790.
- 8 PAHO. La OPS destaca el aumento de casos de dengue, Oropouche y gripe aviar en las Américas, y recomienda medidas de control; 2024 [cited 2025 05 April]; Available from: <https://www.paho.org/es/noticias/10-12-2024-ops-destaca-aumento-casos-dengue-oropouche-gripe-aviar-america-recomienda>.
- 9 Kraemer MUG, Sinka ME, Duda KA, et al. The global distribution of the arbovirus vectors *Aedes aegypti* and *Ae. albopictus*. *eLife*. 2015;4:e08347.

The Lancet Regional Health - Americas 2025;46: 101116

Published Online xxx  
<https://doi.org/10.1016/j.lana.2025.101116>

E-mail address: [c.alvarezrojas@uc.cl](mailto:c.alvarezrojas@uc.cl).

© 2025 The Author(s). Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).