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## Letter to the Editor

# Malaria in Southern Brazil: a potential threat for a non-endemic region

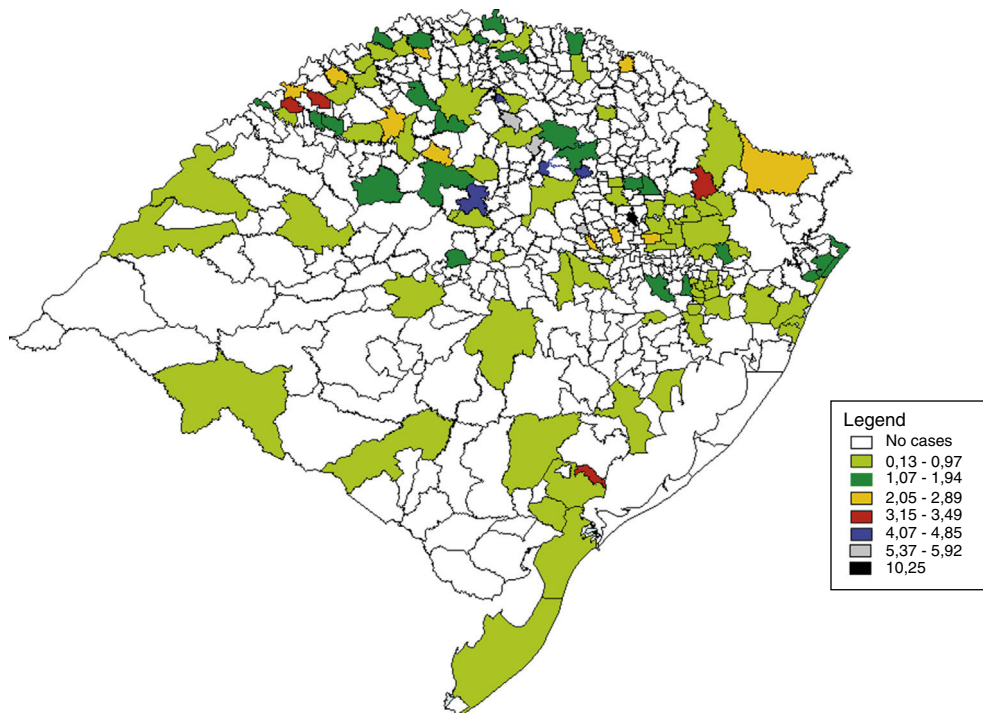


Dear Editor:

It is of great concern the current re-emergence of tropical diseases in non-endemic areas. Malaria is still a major health problem in many areas of Brazil, particularly in the Amazon region. Nevertheless, outside the Amazon basin cases are often unrecognized by health care workers. This lack of understanding delays diagnosis, increases lethality and probably potential for transmission (since individuals may remain parasitemic for longer periods).<sup>1</sup>

Rio Grande do Sul is a southern State of Brazil where autochthonous cases of Malaria have not occurred since 1968. A significant parcel of its territory is located inside the Atlantic Forest, where the bromeliad mosquito *Anopheles (Kerteszia) cruzii*, an effective Malaria vector, is present,<sup>2</sup> therefore increasing the potential for resurgent of autochthonous cases, with unpredictable consequences.

Data from the Information System for Notifiable Diseases (SINAN) were retrospectively reviewed to characterize Malaria cases reported in Rio Grande do Sul from 2007 to 2015. A total



**Fig. 1 – Mean incidence of imported cases of malaria in Rio Grande do Sul State, period 2007–2015 (cases/100,000 inhabitants).**

of 383 cases were notified to the system. Only imported cases were reported. Incidence of Malaria in Rio Grande do Sul varied from 0.252 in 2007 to 0.523 cases in 2015 (chi-square for trend;  $p=0.78$ ) per 100,000 inhabitants. Most cases occurred in men (318 cases; 83.0%); 47.0% were aged 20–49 years. Most frequent identified professional activity was truck driver (21.8%). *Plasmodium vivax* was the most frequent species (36.0%) identified in thick blood smears. *Plasmodium falciparum* was identified in 9.7% of positive smears. Municipalities with the highest incidence were in the central or northern regions, near the Atlantic Forest and the border with Santa Catarina State (Fig. 1). Probable states of infection were Rondonia (15.4%), Amazonas (12.5%) and Pará (5.5%). Of positive smears, 30 (17.5%) had a probable infection origin outside Brazil: most frequent countries were South Africa (26.7%), Haiti (23.3%), and Angola (13.3%); 86.4% of these cases were *P. falciparum* infection.

Understanding of epidemiology of Malaria is fundamental for approaching disease control. Migration and occupations requiring travel contribute to the maintenance of imported cases of Malaria in Rio Grande do Sul State. The knowledge of patients' profile and clinical suspicion from the part of health care workers is essential to a better disease management.<sup>3</sup> Even though the frequency of disease is low, a high level of awareness is necessary considering the vector presence and individuals requiring health care.

### Conflicts of interest

The authors declare no conflicts of interest.

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