To the Editor: We agree with RN Charrel [1] in that seasonal synchronicity (i.e. presence of active Aedes spp. mosquitoes), among others, is an important factor that may increase the risk of an outbreak of chikungunya fever in a country with temperate climate. This theory assumes that viraemic travellers return to their home during the season of vector’s activity (i.e. the hot season in Europe), while at the same time, the virus is still circulating in the affected tropical country.

According to Charrel, lack of synchronicity explains why southern France was not affected by local outbreaks during the outbreak in La Reunion. He further points out that the seasonal synchronicity with the epidemic in India was an important determinant of the Italian outbreak. As an obvious corollary, seasonal synchronicity needs to be considered in the prediction or modelling of the emergence potential of vector-borne diseases.

However, the other factors we listed in our report, as well as in the full research article we published in the Lancet [2,3], i.e. the high concentration of competent vectors, and social and behavioural factors with regard to the returning travellers, may still make the difference. For instance, seasonal synchronicity alone does not explain why local outbreaks occurred in a narrow area of north-east Italy, but not in other Italian and European areas with a sustained presence of Aedes albopictus. Beyond the factors mentioned above (i.e. vector concentration and behavioural factors), there are surely other factors that may increase the chance of local outbreaks, such as the number of people returning from areas affected by concomitant epidemics, which are ill defined and need to be investigated.

Charrel points out the possibility of overwintering of Ae. albopictus through trans-ovarial infection. There are no consistent reports on the occurrence and rate of this phenomenon but the Italian outbreak may clearly offer a unique opportunity to assess through surveillance activities and experimental investigation the potential for trans-ovarial infection of chikungunya virus. Since we cannot completely exclude that chikungunya fever outbreaks will recur during the next hot season, all the efforts should be addressed to strengthen vector and human surveillance. We plan to investigate this and other aspects of the triad relationship virus-mosquito-humans in our institute. As suggested elsewhere [4,5], international collaboration in this critical public health field is very much welcomed.

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