Reply to Séraphin

To The Editor—Séraphin questions the limitations of the human landing collection (HLC) technique [1], yet this is the gold standard method to measure the host-vector contact [2]. In our study, we paid great attention to mosquito collections, to minimize sampling biases linked to different attractiveness of the collectors and/or collection sites. Procedures
of mosquito collection are fully described in the supplementary appendix of an article by Corbel et al, who reported the results of a randomized controlled trial in the same area [3]. As an example, the collectors received at least 1 day of training by experienced staff, and collectors were rotated among the collection sites, following a Latin square design. Moreover, independent staff performed systematic quality control of the mosquito collection by checking (1) the correct position of the collection site, (2) the effective presence, position, and attention of the each individual collecting mosquitoes; and (3) the presence of appropriate capture bags at each position.

Séraphin highlighted a confusion concerning the village name. Tokoli is an administrative village with 2 hamlets on each side of a 2-km large marsh along one arm of Toho Lake. On the west side of the lake, the hamlet is called Tokoli-Vidjinnagnimon (6°26'57.1”N, 2°09’36.6”E). On the east side, the hamlet is called Tokoli-Dozouzramé (6°27’35.2”N, 2°10’17.1”E). In the study by Corbel et al [3], both hamlets were selected for the randomized controlled trial and have been differentiated through their name. Tokoli-Dozouzramé, referred to as “Tokoli,” received a combination of long-lasting insecticide-treated nets (LLINs) plus indoor residual spraying of insecticide, whereas Tokoli-Vidjinnagnimon, referred to as “Vidjinnagnimon,” received a universal coverage with LLINs. In our study [4], we used the name “Tokoli” to refer to Tokoli-Vidjinnagnimon. We acknowledge that the different names used in the 2 articles may have been confusing for readers. Nevertheless, the geographic coordinates of the hamlets in both articles do not lead to any doubt.

To conclude, neither of the villages (ie, Tokoli and Lokohoué) used in the article by Moiroux et al [4] received interventions other than LLINs.

Finally, we agree with Séraphin that LLINs are the best cost-effective vector-control method for malaria prevention. Our aim was not to discourage people from using LLINs but to emphasize that rapid scaling up of LLINs in Africa might lead to behavioral changes in malaria vectors that involve a switch from indoor to outdoor and/or from nocturnal to diurnal biting preferences. It is important to understand the causes (ie, genetic inheritance vs phenotypic plasticity) of behavioral changes in vectors following the implementation of vector control interventions. As also pointed out by the MalERA Consultative Group on Vector Control [5], there are critical needs for vector control tools that complement existing methods by targeting aspects of the mosquito’s cycle that are not currently reached by interventions. Close collaborations among research institutes, stakeholders, and industry are essential to develop innovative tools able to interrupt malaria transmission in Africa [6].

Note

Potential conflicts of interest. All authors: No reported conflicts.

All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

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References