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Specific monitoring tools for anthropophilic mosquitoes

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For a better estimation of the risks of mosquito-transmitted disease epidemics, it is vital to quickly assess the density of the host seeking mosquito population. A simple, specific, and effective trapping tool would overcome some of the disadvantages of the currently used methods to estimate the density of mosquito populations. We introduce an new monitoring suction trap with an attractive lure for anthropophilic mosquitoes. The lure releases a cocktail of volatiles that also emanate from human skin. The attractiveness of the mixture strongly depends on the mixing ratio of the compounds. Release rates and blend ratio can be optimised to suit a number of anthropophilic mosquitoes. Although CO₂ is not essentially necessary for the effectiveness of the new attractant, it enhances the catching rate of the blend.

The design of the trap combines the generation of a specific plume shape for an optimum effectiveness of the attractants with visual cues to enhance the catch of the attracted mosquitoes. The trap is optimised for the new attractive blend, easy to produce and simple to use. It can be applied indoors as well as outdoors and is currently tested in the laboratory and in the field in Brazil, Asia, Australia and Europe with a range of mosquito species.