

## Standard-free method for quantitative elemental analysis of mosquitoes and small flies

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### Abstract

A method of quantitative elemental analysis of mosquitoes which convey serious infectious diseases, such as Japanese encephalitis and Dengue fever, has been developed in order to clarify their mode of life and sphere of action. The method was developed on the basis of a standard-free method for biological samples. The method enables us to perform quantitative analysis of untreated mosquito. Moreover, the method was successfully applied to quantitative analysis of each part of mosquito's body such as head and chest, abdomen, leg and wing. It was found that there are clear differences among parts in the body of mosquito, and also among different species such as *Culex tritaeniorhynchus* and *Aedes albopictus*. The method was successfully applied to quantitative analysis of small fly belonging to Sciaridae (*Bradysia praecox*) whose size is smaller than that of mosquito. It was also confirmed that the method is applicable to other kind of bio-samples of small quantities such as a grain of egg of Alaska pollock whose dry weight is less than 100 µg.