Measuring stress of termites using LC/MS analysis

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Abstract

There have been few reports on stress response of termites. The influence of homeostasis disturbance caused by stresses will affect the behavior and mortality of experimental animals. The impact of tress should not be disregarded in bioassays with termites.
We applied the LC/MS analysis of catecolamines in termites to get a quantitative analysis of stress levels of termites. The key point of using the LC/MS is how to separate the retention times of substrates with same molecular weight. Two catecolamines, such as dopamine and octopamine, have been reported to have strong relationships with stress in insects. As target chemicals, the molecular weight of 153.16 has been selected for LC/MS analysis. From the results, we discuss effects of several stresses on a subterranean termite, Coptotermes formosanus.
Keywords: stress, catecolamine, LC/MS, *Coptotermes formosanus*