ABSTRACTS (MASTER THESIS)

Distribution, morphology, and phylogenetic analysis of the genus *Coptotermes* Wasmann (Rhinotermitidae) in Sumatra and West Java, Indonesia

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Introduction

The distribution of *Coptotermes* spp. has received little attention in Indonesia [1], and it is common to find difficulties in their identification if only soldiers' body measurements are taken into consideration [2]. The purpose of the present study was to map the distribution of *Coptotermes* spp. by identifying specimens collected from the Sundaland region. Multivariate and phylogenetic analyses were used to understand the potential of the morphological characteristics of *Coptotermes* spp.

Soldier head morphology: The most difficult characteristic in *Coptotermes* spp. discrimination

Four *Coptotermes* species were identified, among which *C. curvignathus* was most closely associated with forested areas and *C. gestroi* with urban areas. The postmentum waist and labrum seta characteristics were consistent across the identified species, while head width, pronotum seta, head capsule seta, and postmentum median length were found to be the most useful characteristics for species discrimination. However, multicollinearity in the data blurs overlapped variables and potentially informative characteristics.

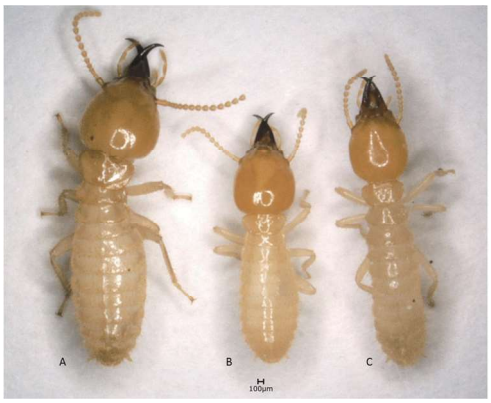

Figure 1. Two species, *C. curvignathus* (A) and *C. gestroi* (B and C) look different at first glance. However, looking solely at their head morphology would not be sufficient to distinguish them in field practice.

High intraspecies morphological variation was observed in *C. getsroi*, which may be a contributing factor to the difficulty of identifying this species. All *C. gestroi* specimens with head capsule variations were categorized into the same clade based on a phylogenetic analysis of their 12S and 16S gene fractions. *Coptotermes curvignathus, C. sepangensis,* and *C. kalshoveni* possess a set character of low waist postmentum type and a pair of paraterminal seta, while *C. gestroi* was characterized by middle waist postmentum and less visible paraterminal seta. Finally, it was suggested that postmentum waist and labrum seta may shed light on the grouping of *Coptotermes* spp. in Indonesia.

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