Male genitalia and ant evolution
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Our recent studies show that the morphological information discovered from male ants is a valuable
to clarify their evolution and to find a proper taxonomic position for a taxon. Wings, flight sclerites,
and genitalia in male ants are particular characters that differ from the characters present in the
workers, which are mainly targeted for establishing the taxonomic system of ants. Among these
useful characters, especially the male genitalia are expected as one of the most efficient sources to
gain new morphological insights into ant evolution. However, the information is not yet sufficient
and standardized enough to evaluate the actual value of the genital characters. Most data about the
genital characters of male ants is scattered in many sources and mostly as part of species
descriptions. Only few of the characters have been proposed to organize a taxonomic hierarchy.
Although intra-taxon variation should be assessed before a comparison can be made across groups
of higher taxonomic rank, few studies include enough material to estimate the variation. This study
reviews and reorganizes the data of male-genital characters collected throughout our taxonomic and
comparative studies of male ants in order to discuss the actual usefulness of the genital characters in
ant systematics. Dracula ants, the subfamily Amblyoponinae is targeted to examine the differences
in species and genus rank. The material examined covers most species found in the Malagasy region,
and the covered range of variation seems sufficient to estimate intra-generic variation and inter-
genetic differences among the major genera in this group. Dolichoderinae and Formicinae are
focused on for a comparison across subfamilies.