



On the morphology of *Procryptocerus* (Hymenoptera: Formicidae). Some comments and corrigenda

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In order to decipher biodiversity, we need to maintain and improve the descriptive scope by pursuing the fundamental ontology and conceptual foundations. Descriptive morphology is currently the clearest avenue to conceiving, understanding and conceptually conveying species as units of evolution and ecology (Serna and Mackay 2010; Wheeler 2008 and references therein). Morphological descriptions ought to be independent of homology as explanatory mechanisms (Vogt 2008). Although essential to providing conceptual criteria for choosing and delimiting morphological units, homology does not require morphological terms to be defined in reference to it (Vogt et al. 2010). Ant morphology and its associated terminology demands intensive studies in order to unify criteria for the basic descriptive and comparative work (Serna and Mackay 2010).

The paper “A descriptive morphology of the ant genus *Procryptocerus* (Hymenoptera: Formicidae)” (Serna and Mackay 2010) is available online at <http://www.insectscience.org/10.111/>, with a glossary of morphological terms therein, or at <http://www.insectscience.org/10.111/Appendix.html>. Considering that the morphology for *Procryptocerus* will be of future use in studies of ant morphology and taxonomy, we want to fix some errors and a few editing and terminological misstatements we made.

Male wing venation

Serna and Mackay's (2010) male venation was mostly based on a mixed terminology from Gauld and Bolton (1988) for Apidae (p. 69) and Hölldobler and Wilson (1990, p. 9). After having amassed data of venation of Aculeata (Hymenoptera: Apocrita) for more than five years for a projected monograph on ant wing venation, the second author of the present note came to the conclusion that the venation in those publications and in Serna and Mackay (2010: pages 15, 36, and Fig. 46) is in error. Consequently, we want to correct Serna and Mackay (2010), replacing figure 46 and its explanation with the following.

Wings

On the forewing, the first (anteriormost) vein is C, and the second is Sc+R proximally; in the archetypal wing, R and Rs are not separate veins proximally; R1 and Rs are the products of a distal bifurcation of R, proximal of the pterostigma (pst). The R just distal of the pterostigma is the third abscissa of R1. Rs usually only branches into Rs1 and Rs2 in the symphytan Xyleidae, where Rs does branch, but not in other symphytan families. Neither does Rs branch in aculeates. The recurrent vein joining the middle posterior margin of the pterostigma and the diagonal portion of the Rs is the cross-vein 2r-rs, which distally closes the compound cell SMC1+SMC2; and the most distal portion of the diagonal Rs, delimiting SMC3 posteriorly, are the abscissae 4&5 of Rs. Vein A does not branch in any Aculeata; therefore, proximal A is the first abscissa of A, and distal A (distal to cu-a) is abscissae 2&3.

On the hindwing, the first vein is C and second vein is Sc+R, which delimits BC anteriorly and branches distally into Sc+R1 and Rs. The later (Rs) continues running out towards the wing margin, as the second abscissa of Rs. The central recurrent vein, closing BC distally and connecting Rs with M+Cu and Cu, is compound forming rs-m+M; the anterior section of it is rs-m and its posterior section is M. The longitudinal portion of M that would run out toward the wing margin has been lost.