POSTER ABSTRACT

EXTERNAL ANATOMY AND DIAGNOSTIC CHARACTERS OF SOME COMMON SOUTH AFRICAN SUGARCANE WHITE GRUB LARVAE

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Abstract

There is a rich white grub (Scarabaeidae) fauna present in the South African sugarcane industry. Scientific names of problematic species are required to facilitate information retrieval. Ultimately, the identification of each white grub species is critical, as correct targeting and timing of control strategies are dependent on knowledge of possible differences in biology amongst species. However, the availability of taxonomic information on the larvae of this insect group is limited, which makes differentiation between species based on larval morphological characteristics difficult. A preliminary study was undertaken to document the external anatomy of larvae/grubs recovered from sugarcane fields in KwaZulu-Natal and Mpumalanga. The scarabaeiform larval type studied typically have a C-shaped body or convex configuration, with a large head relative to the abdomen, and three pairs of well-developed thoracic legs. The taxonomic groups commonly associated with sugarcane in this country belong to the subfamilies Melolonthinae, Rutelinae, Dynastinae and occasionally Cetoninae. Close scrutiny of each specimen reveals a suite of anatomical features with a range of structural complexity. Digital photography techniques were used to record the features of these insects. Preliminary observations elucidated groupings distinguished on character similarity. Characters were based on features of the external body parts visible *in situ* under the dissecting microscope; for example raster pattern, and on the unique structure of the mouthparts that were dissected from the head. This poster synthesises and organises the information that has been gathered about the anatomy of these insects, into a taxonomic key format that can be used by researchers.

Keywords: sugarcane, white grubs, raster pattern, taxonomy, scarabaeids