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First Report of a New Bruchid Species “*Megacerus cubiculus* (Coleoptera; Chrysomelidae)’ Found on Cowpea in Nigeria and a Brief Description of the Species

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Introduction - The large-horned bruchid (*Megacerus* Fahraeus) is a distinct genus of Bruchinae that merits being the sole member of the tribe Megacerini in the subfamily Bruchinae, with more than 50 species distributed from U.S.A. and Canada to Chile and Argentina (Tera'n and Kingsolver 1977; McNamara 2004). These bruchids have been reported to feed only on the seeds of the morning glory family (Convolvulaceae), with an occasional unconfirmed exception (Center and Johnson 1974; Maes and Kingsolver 2003). Recently the larvae of *Megacerus flabelliger* were found feeding on seeds of *Merremia macrocalyx* a convolvulaceous weed in Venezuela (Johnson and Raimundez-Urrutia, 2008). The weed (*M. macrocalyx*) produces fruits with one to four seeds and the bruchid was found to oviposit more frequently on fruits with multiple seeds but only one seed was attacked while in some cases fruits with multiple seeds had eggs. Oviposition occurred most frequently on seeds still on the plant and only eggs of *M. flabelliger* that were found on seeds of *M. macrocalyx* (Johnson and Raimundez-Urrutia, 2008).

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First Report of a New Bruchid Species “*Megacerus cubiculus* (Coleoptera; Chrysomelidae)’ Found on Cowpea in Nigeria and a Brief Description of the Species

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I. INTRODUCTION

The large-horned bruchid (*Megacerus* Fahraeus) is a distinct genus of Bruchinae that merits being the sole member of the tribe Megacerini in the subfamily Bruchinae, with more than 50 species distributed from U.S.A. and Canada to Chile and Argentina (Tera'n and Kingsolver 1977; McNamara 2004). These bruchids have been reported to feed only on the seeds of the morning glory family (Convolvulaceae), with an occasional unconfirmed exception (Center and Johnson 1974; Maes and Kingsolver 2003). Recently the larvae of *Megacerus flabelliger* were found feeding on seeds of *Merremia macrocalyx* a convolvulaceous weed in Venezuela (Johnson and Raimundez-Urrutia, 2008). The weed (*M. macrocalyx*) produces fruits with one to four seeds and the bruchid was found to oviposit more frequently on fruits with multiple seeds but only one seed was attacked while in some cases fruits with multiple seeds had eggs. Oviposition occurred most frequently on seeds still on the plant and only eggs of *M. flabelliger* that were found on seeds of *M. macrocalyx* (Johnson and Raimundez-Urrutia, 2008). In another development, *Megacerus discoidus* a native of North American seed feeder developed to adulthood in hedge binweed *Calystegia sepium* and heavenly morning glory *Ipomoea tricolor* without appreciable interference with plant growth (Wang and Kok, 1986). C. D. Johnson (1998) reported *Ipomoea longifolia* as a new host to *Megacerus shaefferianus* where adult congregated on flowers to feed on nectar and pollen prior bouting and oviposition. Eggs were later glued seeds on the pods.

Little research has been conducted on the life history of species of *Megacerus*. They are mostly univoltine except *M. baeri* that is multivoltine (Teran and Kingslover, 1997) and only one larva develops in a seed. Oviposition occurs mainly on the sepals or in the capsule of the fruits and occasionally on seeds after the

valve of fruit had opened while still on the plant (Teran and Kingslover, 1997). Some studies on the morphology and larvae of several species of *Megacerus* together with information about the mode of attachment of eggs to seeds are available (Pfaffenberger, 1980; Pfaffenberger *et al.*, 1984) but scanty information exists with regards to damage to seeds caused by *Megacerus* species. Of these are predation values on ipomoea ranging from very low (<10%) to considerable (>70%) seed destruction (Keeler, 1980; Devall and Thien, 1989; Scherer and Romanowski, 2005).

Generally, most of the reports on the hosts of *Megacerus* species are predominantly members of the Convolvulaceae with none on leguminosae. But in the course of sorting out cultured bruchids from cowpea for identification and subsequent morphometric studies, I saw this novel insect with strongly flabellate antenna that was later identified to be *Megacerus cubiculus* Casey.

I report here for the first time the presence and brief description of the bruchid (*Megacerus cubiculus*) found on cultured cowpea collected from Katsina State Nigeria along with other bruchids like *Callosobruchus maculatus*, but its pest status and severity of damage to cowpea is been investigated. Subsequently, its ecology and evolution has generated much interest and will be investigated.

Description: The insect is about 2.9mm in length and the width 1.5mm measured using calibrated handheld digitalized MIScope microscope (40-140X). Head is somehow yellowish with white patches above the eye and adjoining frontal carina. Eyes are narrowly separated with ocular index at 24:1 in males and 7:1 in females.

Antenna strongly flabellate with eight finger-like projections in males and serrated in the females. Pronotum is yellow in colour, bell-shaped, convex with white stripes and some black spots. Scutellum is white, quadrate and bifid apically. Elytral colour is brownish to maculate with elongate black patches at the middle, base and apex. The elytra together are slightly longer than wide, convex, partially depressed medially and apices not extending beyond basal margin of the

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pygidium except the hind membranous wings. Elytral striae finely punctured, elongate and not encroaching on margins of interstices.



Above is a picture of the bruchid (male *Megacerus cubiculus* Casey).

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