



## Biology of the Enset Root Mealybug, *Cataenococcus ensete* (Williams & Matile-Ferrero) (Homoptera: Pseudococcidae), and its geographical distribution in Southern Ethiopia

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### Abstract

Enset belongs to the order Scitaminae and the Musaceae family. Enset, *Ensete ventricosum* (Welw.) Cheesman, was domesticated in Ethiopia several hundreds of years ago and is now the staple food crop for over 15 million Ethiopians living in the highlands of southern Ethiopia. The sustainability of enset agriculture is however threatened by a number of factors including various diseases and insect pests. The enset root mealybug, *Cataenococcus ensete*, (Homoptera: Pseudococcidae), was first reported in Wonago, southern Ethiopia. Mealybug specimens collected on enset roots were sent to the International Institute of Tropical Agriculture (IITA),

<http://www.e-conference.elewa.org/agriculture>. 

Benin station where its identity was confirmed. *C. ensete* had previously been wrongly referred to as *Paraputo* sp. During 2004-2005, the biology of *C. ensete* was studied in the laboratory of the Southern Agricultural Research Institute at Awassa, Ethiopia. The females are viviparous and produced  $253 \pm 17.4$  nymphs/female. The average duration of the first, second and third-instar nymphs was  $16.2 \pm 0.47$ ,  $18.15 \pm 0.69$  and  $19.75 \pm 0.47$  days, respectively. The average life span of the adult female was  $49.95 \pm 0.47$  days. The body length and width of the adult female mealybugs ranged from 2.9 to 4 mm and 2.5 to 3.5 mm, respectively, when measured with wax covering. Adult female mealybugs could not survive for more than three weeks in the soil in the absence of any type of plant materials. The distribution and importance of the insect was also investigated in 25 districts of southern Ethiopia from where a total of 163 sites were visited from July to December 2004. The elevation of these sites ranged from 1,054 to 2,977 meters above sea level. Overall, 211 different enset clones with varying levels of mealybug infestations were assessed. Infestation was high in Amaro, Gedeo, Sidama and Bench districts with 100, 67, 61 and 57% incidence respectively. Low mealybug incidence was recorded in Gurage, Kembata Tembaro, Hadyia zones and Yem districts. More than 30% of the surveyed farms were infested. The highest infestation of 81 mealybugs per plant was recorded in Gedeo zone while the lowest infestation of 3 mealybugs per plant was recorded in Yem district. Knowledge about the biology and distribution of this species has paramount importance in devising proper management strategies.

**Key words:** Biology, *Cataenococcus ensete*, distribution, enset, instar, survival