



The Coffee berry borer, *Hypothenemus hampei* Ferrari (Coleoptera: Scolytidae) in Eastern Africa region: the extent of spread, damage and management systems.

H.M. Mugo and J.K. Kimemia
Coffee Research Foundation
P.O Box 4, 00232
Nairobi, Kenya.

Email: mugohmu@yahoo.com jkimemia@crf.co.ke or crf@kenyaweb.com

Introduction



Eastern Africa Region (Kenya, Uganda, Tanzania, Ethiopia, Rwanda & Burundi)

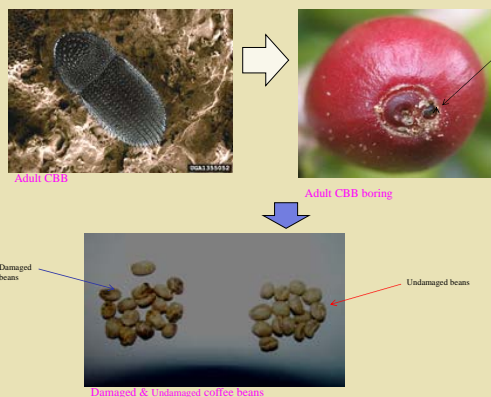
Coffee Varieties grown

- ☐ Robusta coffee - Uganda
- ☐ Arabica coffee - Kenya, Tanzania, Ethiopia, Rwanda & Burundi

Key insect pests

- ❖ Coffee Berry Borer (Broca) - *Hypothenemus hampei**
- ❖ Antestia bugs - *Antestiopsis spp*
- ❖ White Borer - *Anthonus leuconotus*
- ❖ Green scales - *Coccus alpinus*
- ❖ Yellow Headed Borer - *Dirphyia nigricornis*
etc

Coffee Berry Borer(CBB)



CBB Impact on Production

- > 50% of foreign exchange earnings for Eastern Africa Regional countries depend on coffee export.
- Heavy infestation by CBB > 96% occurs in the region.
- > Yield losses 80 - 96%

Management Strategies



(a) Cultural- (stripping)



(b) Chemical- (spraying)

(c) Biological (Parasitoids & Fungal pathogens)



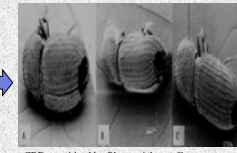
Prorops nasuta.



Cephalonomia stephanoderis



Phymastichus coffea



CBB parasitized by *Phymastichus coffea*



Cbb infected by *B. bassiana*

Beuveria bassiana (Fungal pathogen)

- The parasitoids (*Prorops nasuta*, *Cephalonomia stephanoderis*, *Phymastichus coffea*) and fungal pathogen (*Beuveria bassiana*) are indigenous to Eastern Africa region
- These have been exported for classical biocontrol of CBB in countries like Colombia, Guatemala, Honduras, Jamaica, El Salvador, Ecuador, India, Brazil and Mexico
- Promising results in parasitism have been achieved from *Phymastichus coffea*

Proposed Future Management Strategies

- ❑ Development of coffee resistant cultivars to CBB
- ❑ Inorganic and organic fertilizers uses to deter or reduce the infestation levels of coffee beans
- ❑ Integration of biocontrol, botanicals, cultural and selective insecticides as suitable strategies for CBB management

Conclusion and Recommendations

- ❖ CBB as a global problem would require global approach where the existing strategies can be shared
- ❖ The existing potential parasitoids from Eastern Africa Region need to be explored further so that other coffee producing nations can benefit

Acknowledgements

The Coffee Research Foundation is acknowledged for the financial support in this presentation