Habitat adaptation and population of nymphal and adult stages of two cocoa mirid species (D*istantiella theobroma* [Dist.] and *Sahlbergella singularis* Hagl.)

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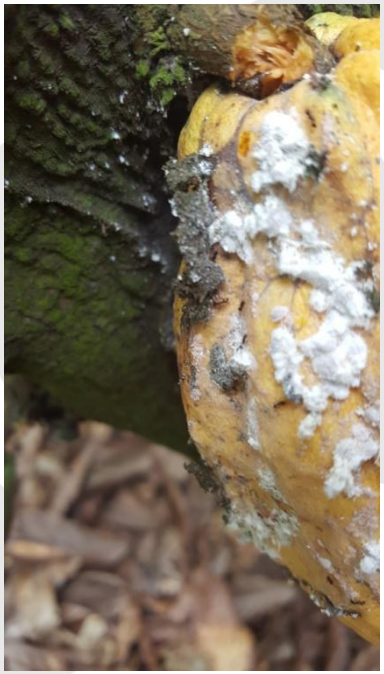
Background and objectives of study

- ***Distantiella theobroma*** **and** ***Sahlbergella singularis*** **are the two key mirid species in West Africa**
- **Newer cocoa varieties harbour mirids and other pests all year round**
- **Usage of different plant parts as feeding and breeding sites has been little studied**
- **Identification of feeding site preferences and temporal distribution would aid targeted and timely insecticide treatments in cocoa**

Key insect pest problems of cocoa



Economics of pest (mirid) attack

Plant losses of newly established cocoa can be as high as 70%

Under heavy infestation of mature cocoa farms, yield losses of cocoa beans can be as much as 30%

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Population studies

Sampling conducted on farmers' farms located at Pankese (N 6.24º.6 W 0.52.0º) in the Eastern Region

Visual counts of mirids on all trees within eight 0.4 ha plots (400-500 trees)

The sampling method has previously been used by the International Capsid Research Team (Collinwood, 1971)

Results

17,892 *D. theobroma* and 31,143 *S. singularis* in total were sampled with significant variability in dominance detected in habitat affinity between the two species

Nymphs were the most frequently detected stage (93.2%), and significant differences in abundance were detected in habitat preference

The old perception that *D. theobroma* had strong habitat affinity for pods than *S. singularis* could not be established in the present study.

In contrast, 63.3% *S. singularis* and 54.7% *D. theobroma* were recorded on pods.

Temporal distribution of nymphs

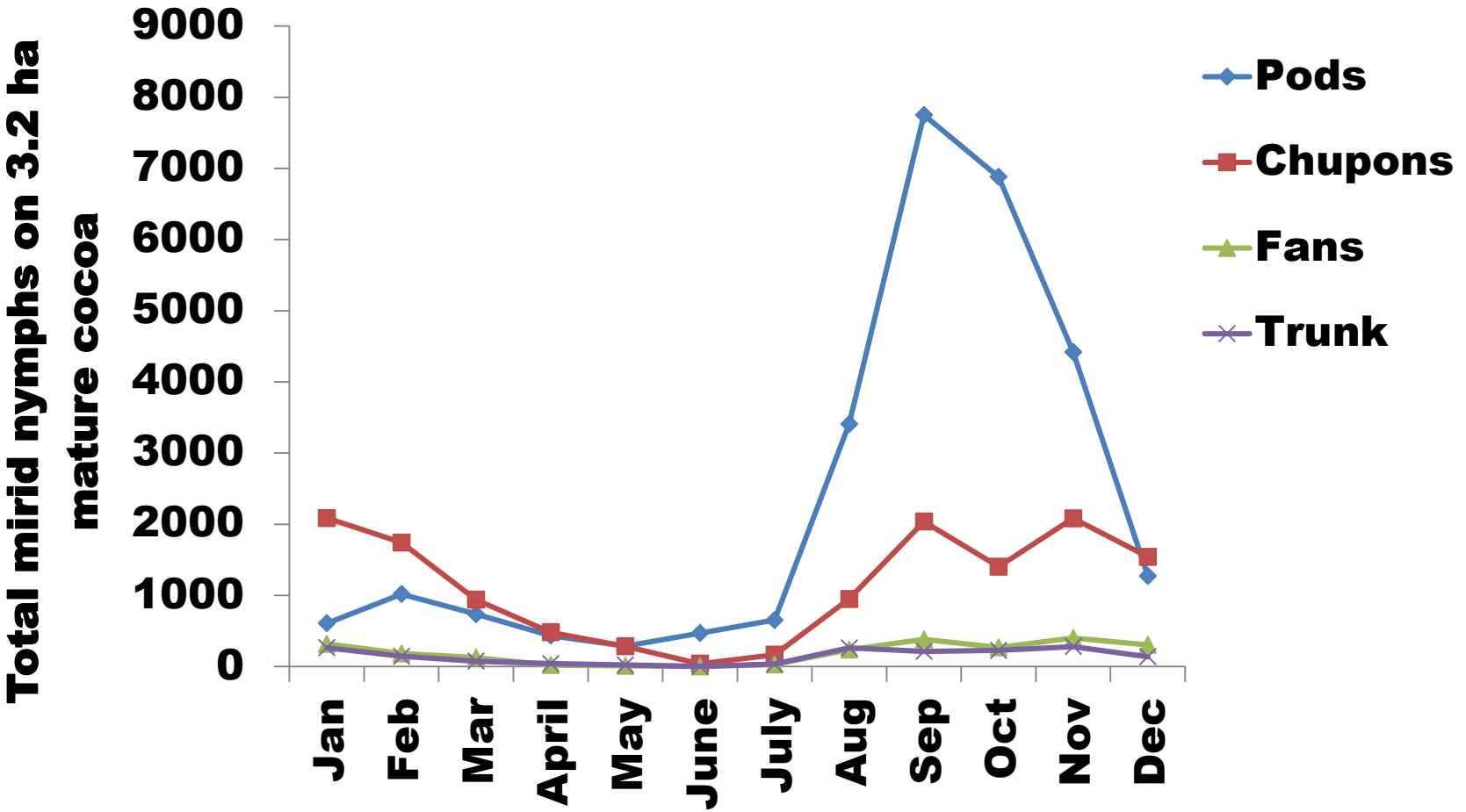

Fig. 1. Seasonal abundance of mirid nymphs on different plant organs

Temporal distribution of adults

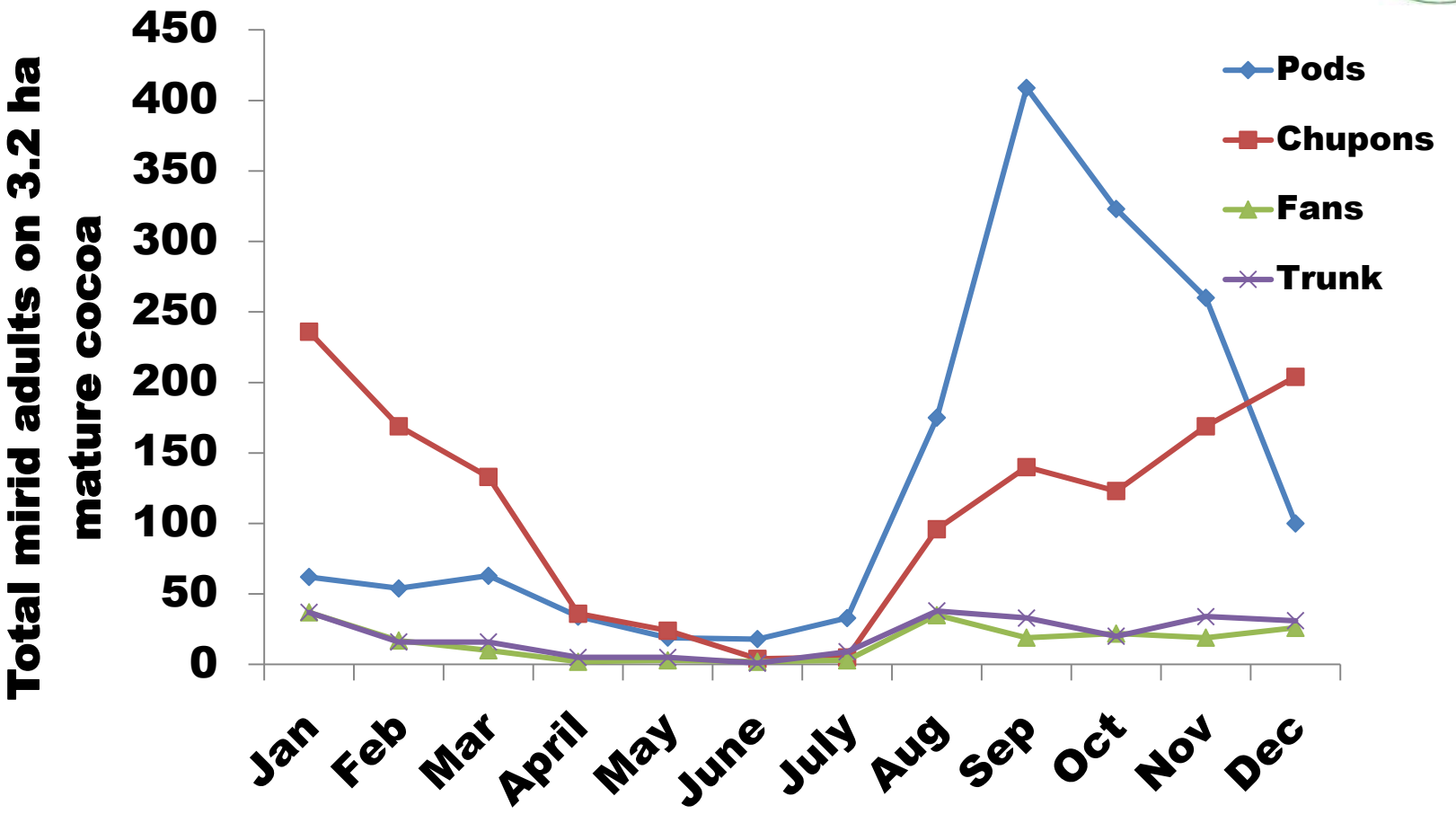

Fig. 2. Seasonal abundance of adult mirids on different plant organs

Conclusions

From the foregoing, chupon removal and directing insecticide sprays at chupons and pods, can improve deposits of insecticides and efficiency of pest control in cocoa

These measures would be particularly important in periods when mirid numbers are high during February –March and August to December

THANK YOU FOR YOUR ATTENTION