

CHARACTERIZATION OF CUCURBIT-INFESTING TEPHRITIDS PEST STATUS IN IVORY COAST

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CONTEXT

- Tephritid fruit flies are pests of economic importance for the agricultural production sector worldwide¹
- Current massive use of chemical pesticides is not adapted to the life cycle of this pest
- Alternative control methods based on attractive semiochemicals such as pheromones are promising but partially efficient and not sufficiently spread and adopted by smallholders²

RESEARCH QUESTIONS

- How important are the damages caused by Tephritid flies in Ivorian vegetable production systems?
- What species occur across the territory?
- Which factor(s) determine their distribution and relative abundances?
- Do some potential natural enemies also occur?



Zeugodacus cucurbitae on a young growing damaged cucumber
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Observation of fruit fly damages in a zucchini plot on the outskirts of Abidjan
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MATERIAL AND METHODS

- Observation, description, producer's survey and infested fruit sampling of cucumber or zucchini plots around the 4 main urban areas from North to South
- Counting and identification of flies that emerge from collected infested fruit

RESULTS

- 91% of visited plots were infested by fruit flies with attack rates from 0.9 to 100% depending on the micro-environment, field management and crop stage
- At least 5 Tephritid species and 2 parasitoids were identified³ with a higher diversity in untreated plots
- Dacus ciliatus* has been identified as the dominant species across the country
- Relative abundances depend on the micro-environment, field management and season



Photographs of 5 morphotypes emerged from fruit samples © L. EYPERT

	Attack rate (% infested fruit)		Infestation rate (number pupae per 100 g fruit)		Species relative abundances (%) (<i>Dacus ciliatus</i> , <i>Zeugodacus cucurbitae</i> , <i>Dacus bivittatus</i> , other species)	
	Cucumber	Zucchini	Cucumber	Zucchini	Cucumber	Zucchini
Korhogo	55.13 ± 25.47	37.86 ± 31.03	10.06 ± 4.40	40.45 ± 72.28		
Bouaké	29.06 ± 20.27	17.50 ± 23.73	10.88 ± 13.68	38.66 ± 63.38		
Yamoussoukro	46.08 ± 27.88	25.09 ± 18.24	16.23 ± 29.73	10.25 ± 6.07		
Abidjan	9.54 ± 11.74	13.75 ± 15.7	12.95 ± 9.74	15.08 ± 15.13		


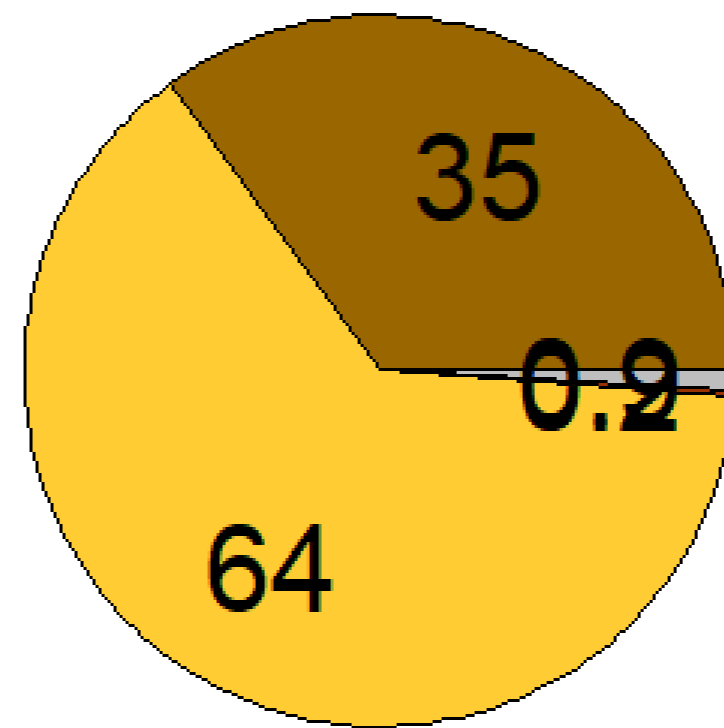
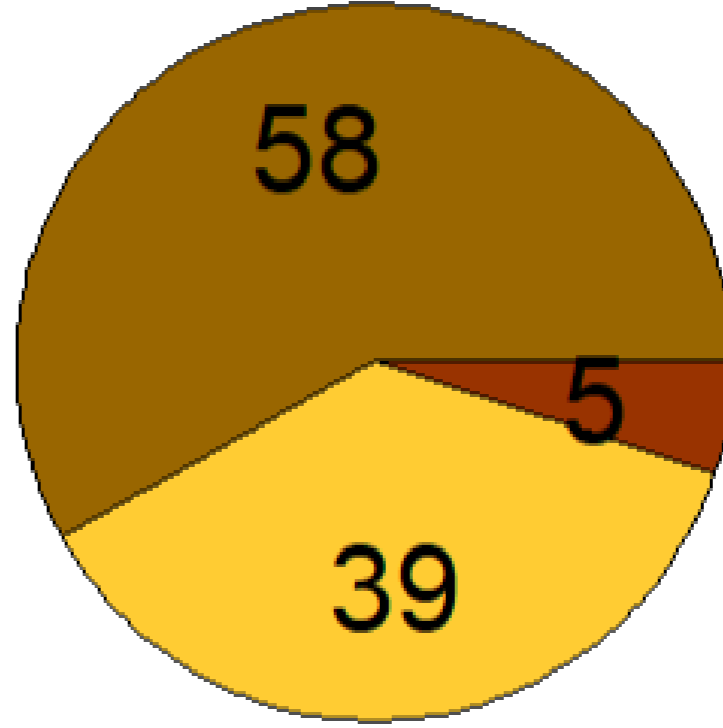
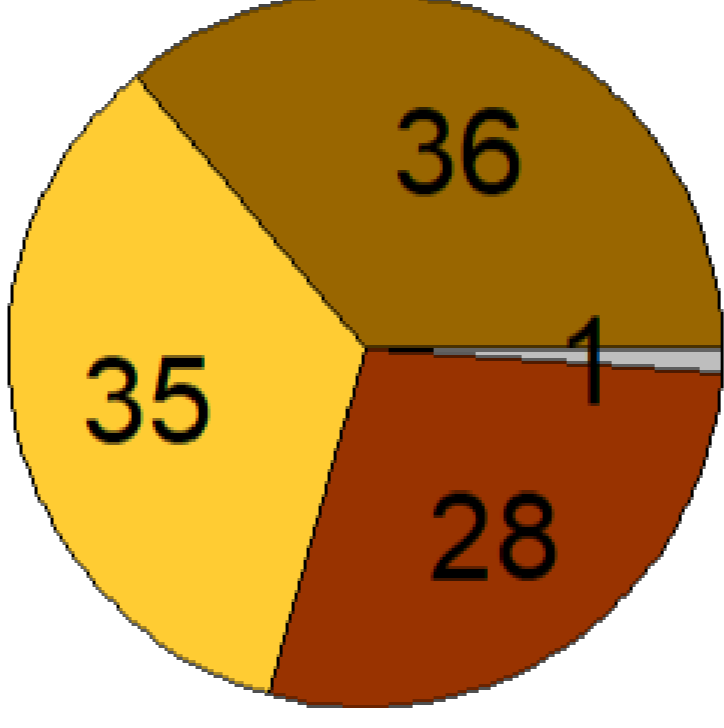
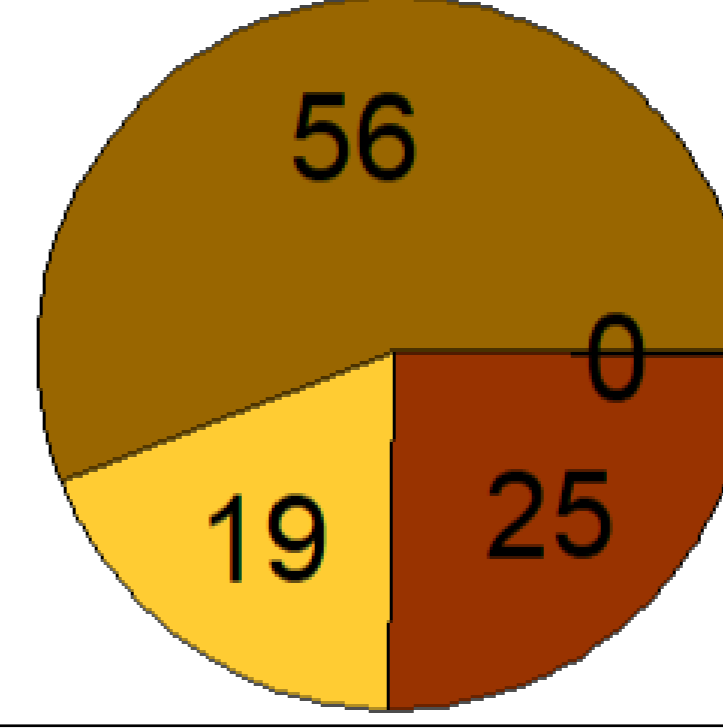
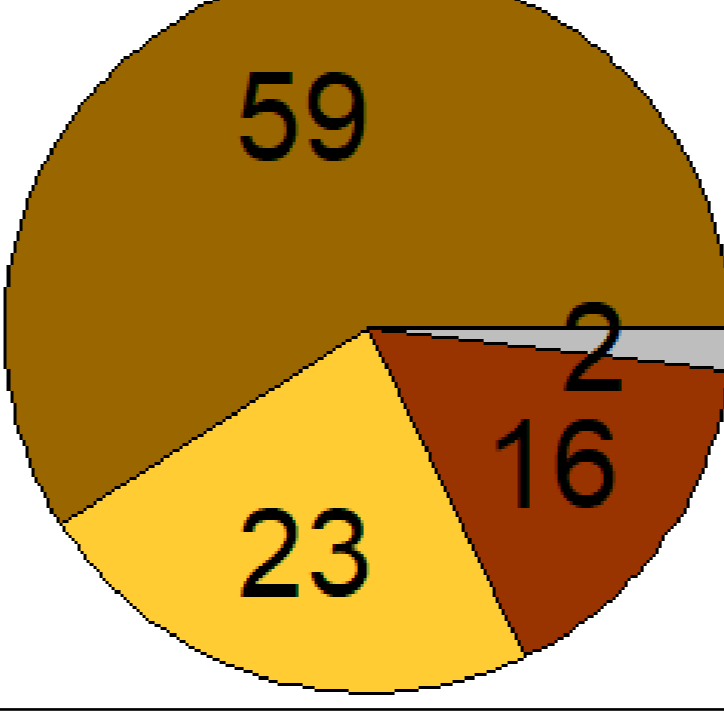
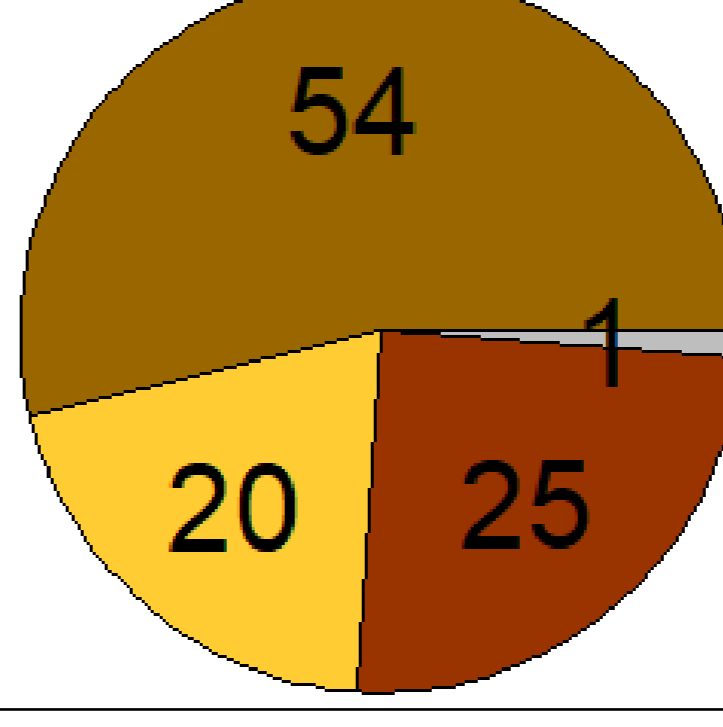

DISCUSSION AND PERSPECTIVES

To date, no specific semiochemical compound has been found to control *Dacus ciliatus*, a widespread species across Africa and Asia², so research on attractants and repellents to prevent females from ovipositing must carry on

- In the context of agroecological transition, several natural control methods must be combined (sanitation, trapping, biopesticides, natural enemies, push-pull, attract and kill, ...)
- Producers should be sensitized to damages recognition and flies life cycle to adapt their agricultural practices to reduce field infestation

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