



Introduction

Bactrocera dorsalis is serious pest of fruit and vegetables in many countries ranging from South-East Asia to Hawaii (Wan et al., 2012) and Africa (Mwatawala, et al., 2006).

Fruit flies in general contain large maxillary palp with many olfactory sensilla and their significance in host detection, recognition and the function of maxillary palpal in behavior in general is unknown. The research presented here focused on the evaluation of the responses of maxillary palp to volatiles of four hosts so as to contribute in the current efforts of developing attractant for their control.

Materials and methods

Gas Chromatography-Electropalpographic Detection (GC-EPD) and GC-Mass Spectrometry (MS) were used to identify active compounds.

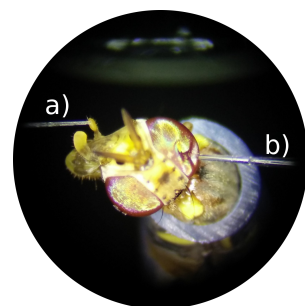
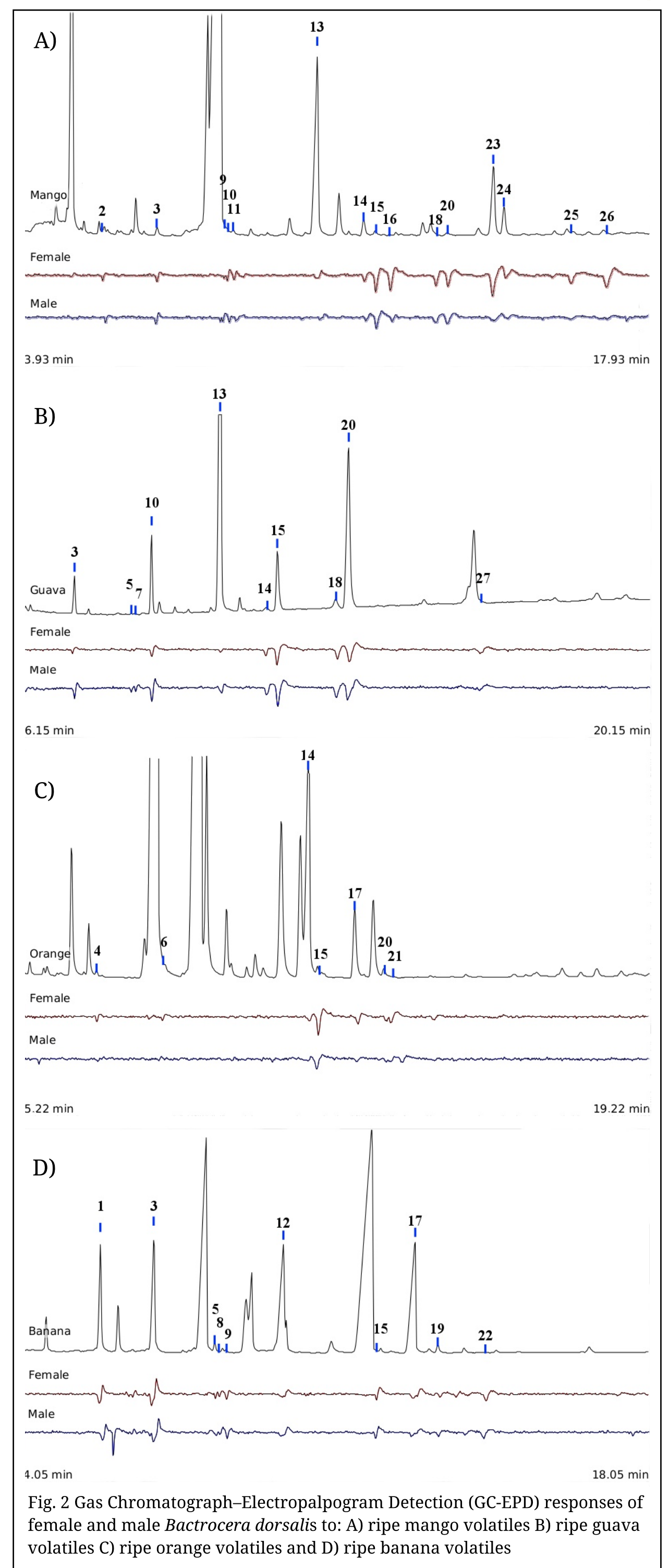


Fig. 1 Mounted fly with electrodes (a and b) connected

Table 1: Compounds identified from four ripe fruit volatile that elicited EPD response from male and female *B. dorsalis*

No	Compound	Kovats retention index			
		Mango	Guava	Banana	Orange
1	2-Pentanol, acetate ^a			1065	
2	Acetic acid, butyl ester ^a	1068			
3	1-Butanol, 3-methyl-, acetate ^a	1118	1116	1115	
4	3-Penten-2-one, 4-methyl- ^a				1126
5	Unknown compound A		1162	1161	
6	β -Myrcene ^a				1163
7	Acetic acid, pentyl ester ^a		1165		
8	Unknown compound B			1166	
9	2-Heptanone ^a	1175		1172	
10	Hexanoic acid, methyl ester	1180	1179		
11	Isobutyl isovalerate ^a	1186			
12	Butanoic acid, 1-methylbutyl ester ^a			1209	
13	Hexanoic acid, ethyl ester ^a	1228	1226		
14	Butanoic acid, 3-methylbutyl ester	1258	1258		1261
15	Acetic acid, hexyl ester ^a	1264	1263	1267	1265
16	Acetoin ^a	1268			
17	Butanoic acid, 3-methyl-, 3-methylbutyl ester ^a			1290	1288
18	3-Hexen-1-ol, acetate, (E)- ^a	1298	1297		
19	Unknown compound C			1303	
20	3-Hexen-1-ol, acetate, (Z)- ^a	1306	1305		1307
21	Unknown compound D				1309
22	Butanoic acid, 3-hexenyl ester, (Z) ^a			1330	
23	2-Hexenoic acid, ethyl ester ^a	1334			
24	2-Butenoic acid, ethyl ester (E/Z)- ^a	1341			
25	allo- neo-Ocimene ^a	1382			
26	Unknown compound E	1397			
27	Benzoic acid, methyl ester ^a		1601		

^a Compounds that elicit antenna response to male *B. dorsalis* (Biasazin et al, 2014)



Conclusion

1. Maxillary palpal detected various compounds from four hosts which could be important in host selection.
2. Most compounds detected were also detected by the antenna (Biasazian et al., 2014)
3. Behavioural assays are expected to provide clear understanding on the importance of identified compounds to host selection by *B. dorsalis*

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