

# Assessment of different traps and attractants in three processing facilities in Central Greece

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## Introduction

The USDA Animal and Plant Health Inspection Service (APHIS), in collaboration with the Agricultural Research Service (ARS) and the University of Thessaly (UTH), has initiated a series of tests for the evaluation of different traps and attractants for the detection of stored-product insects. Therefore, the aim of the present study was to evaluate specific traps and attractants in “real world” conditions, at different facilities.



Dome Trap

Wall Trap

Box Trap

## Materials and Methods

- ✓ All combinations of different trap types and attractants were placed in three processing facilities in Central of Greece (Facility 1, 2, and 3).
- ✓ Trapping was carried out from June to December of 2018.
- ✓ The traps used in our experiments were Dome Trap (Trécé Inc.), Wall Trap (Trécé Inc.) and Box Trap (Insects Limited Ltd.) in all facilities.
- ✓ The attractants that were used in our experiments were: a) 0.13 g of PantryPatrol gel (Insects Limited Inc.), b) oil-based kairomone food attractant (Storgard Oil, Trécé Inc.), c) 0.13 g of wheat germ (Honeyville), d) 0.13 g of Dermestid tablet attractant (Insects Limited Inc.) and e) “control”, without any attractant.



Different attractants



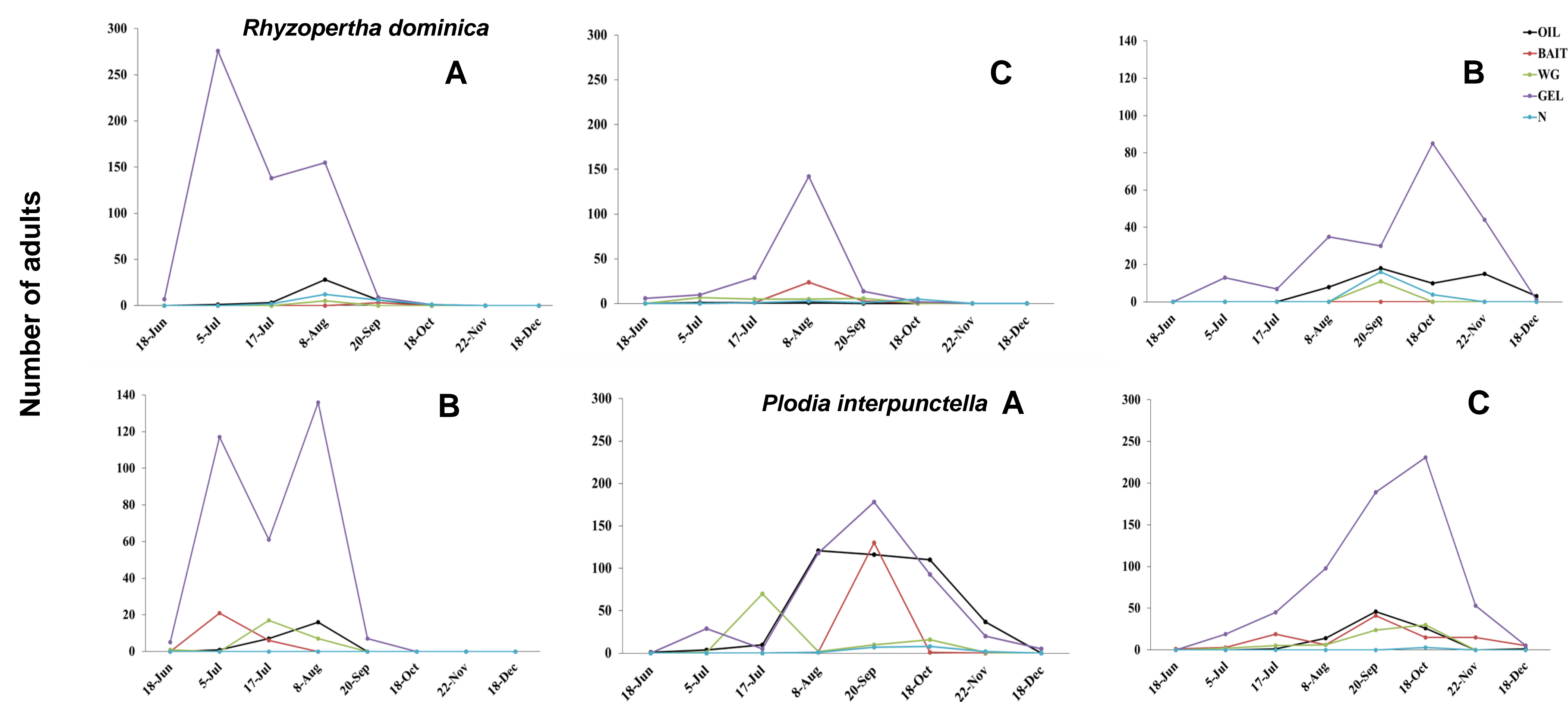
Dome trap with gel

## Results

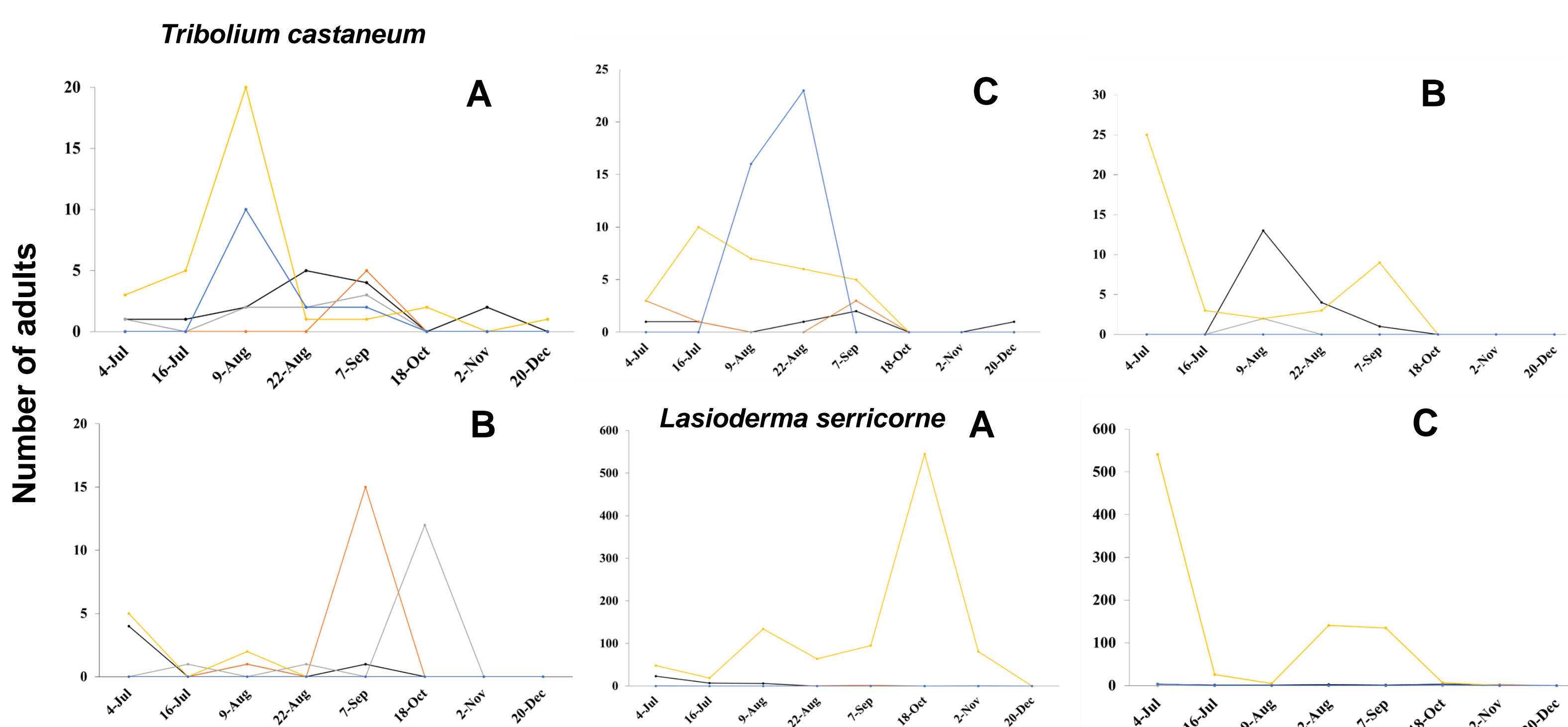
### 1. Total number of adults of each species found in every facility during the survey.

Species		Facility			TOTAL
		1	2	3	
Tenebrionidae	<i>Tribolium confusum</i>	87	253	433	773
	<i>Tribolium castaneum</i>	53	201	145	399
	<i>Latheticus oryzae</i>	175	7	251	433
	<i>Cyaneus angustus</i>	-	11	-	11
	<i>Palorus sp.</i>	2	-	5	7
	<i>Tribolium destructor</i>	-	-	1	1
Silvanidae	<i>Oryzaephilus surinamensis</i>	78	14	71	163
	<i>Oryzaephilus mercator</i>	1	2	-	3
	<i>Ahasverus advena</i>	3	9	10	22
Anobiidae	<i>Lasioderma serricorne</i>	588	1964	296	2848
	<i>Stegobium paniceum</i>	9	45	-	54
Bostrychidae	<i>Rhyzopertha dominica</i>	1325	43	177	1545
Curculionidae	<i>Sitophilus oryzae</i>	475	38	62	575
	<i>Sitophilus granarius</i>	1096	110	61	1267
Pyralidae	<i>Plodia interpunctella</i>	2222	-	-	2222
	<i>Ephestia sp.</i>	-	30	8	38
Dermestidae		3	4	15	22

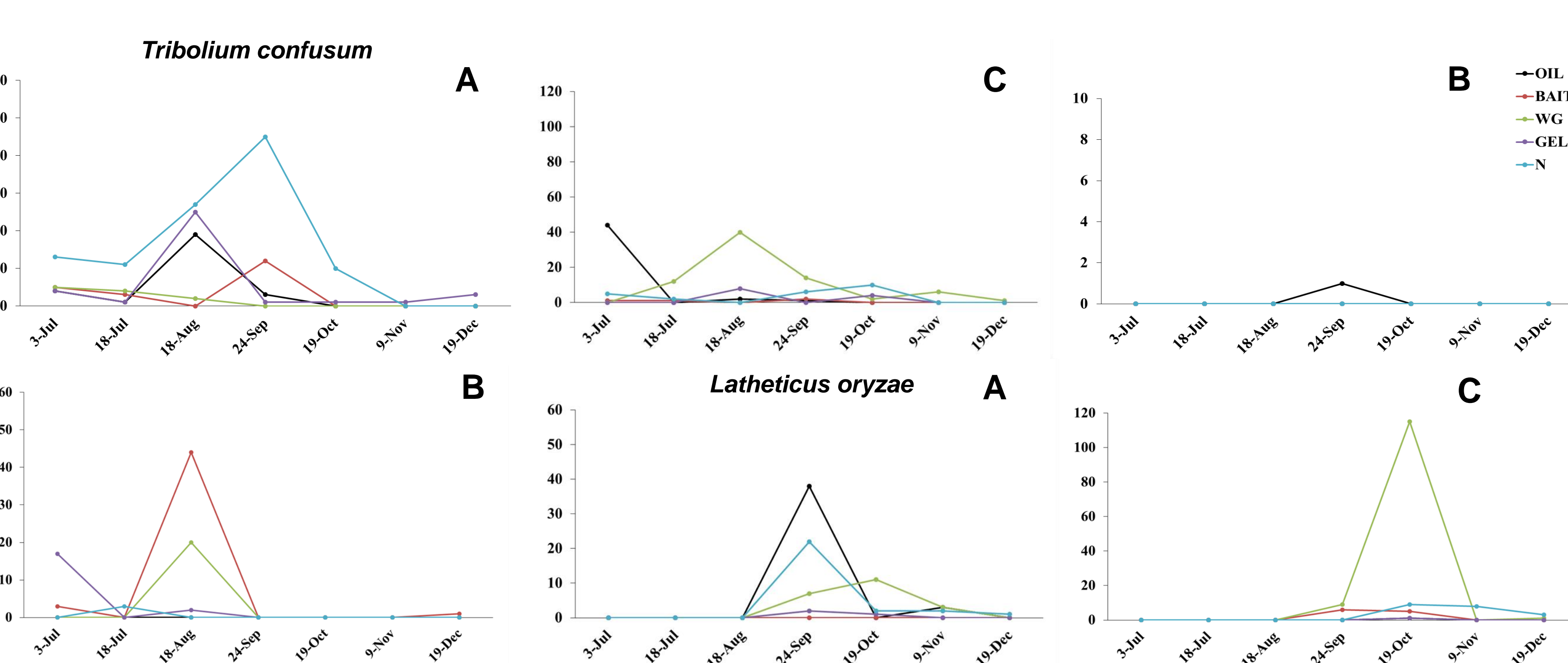
### 2. The dynamics of *R. dominica*, *P. interpunctella* in Dome (A), Wall (B) and Box (C) traps, in Facility 1.



### 3. The population fluctuation of *T. castaneum*, *L. serricorne* in Dome (A), Wall (B) and Box (C) trap, in Facility 2.



### 4. The dynamics of *T. confusum*, *L. oryzae*, in Dome (A), Wall (B) and Box (C) trap, in Facility 3.



## Conclusions

- ✓ *Tribolium* spp. were the most abundant species in all three Facilities, with a dissimilar response to specific traps and attractants.
- ✓ For some species, the gel was generally more attractive than the other sources tested.
- ✓ The majority of the species responded better, despite seasonal variations, to the Dome traps, but this response varied according to the attractant used.