

## Supplementary data

Figure S1: The schematic drawing of the questionnaire used in the study.

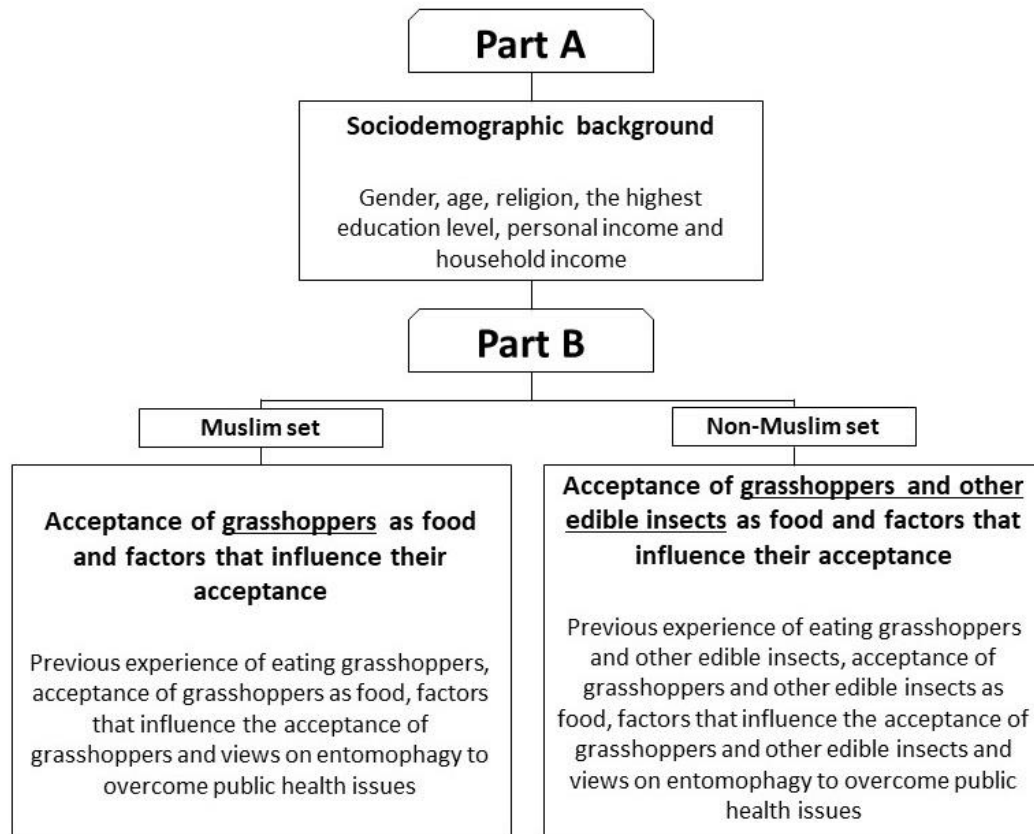


Figure S2: Type of channels that the respondents get to know about entomophagy

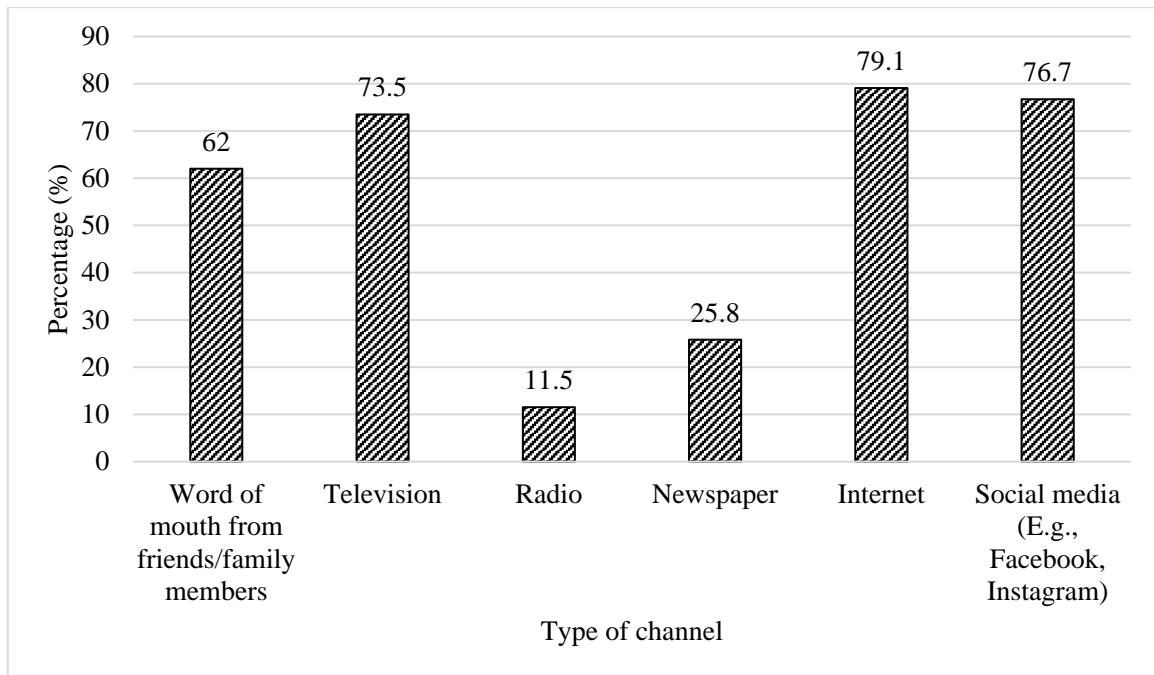
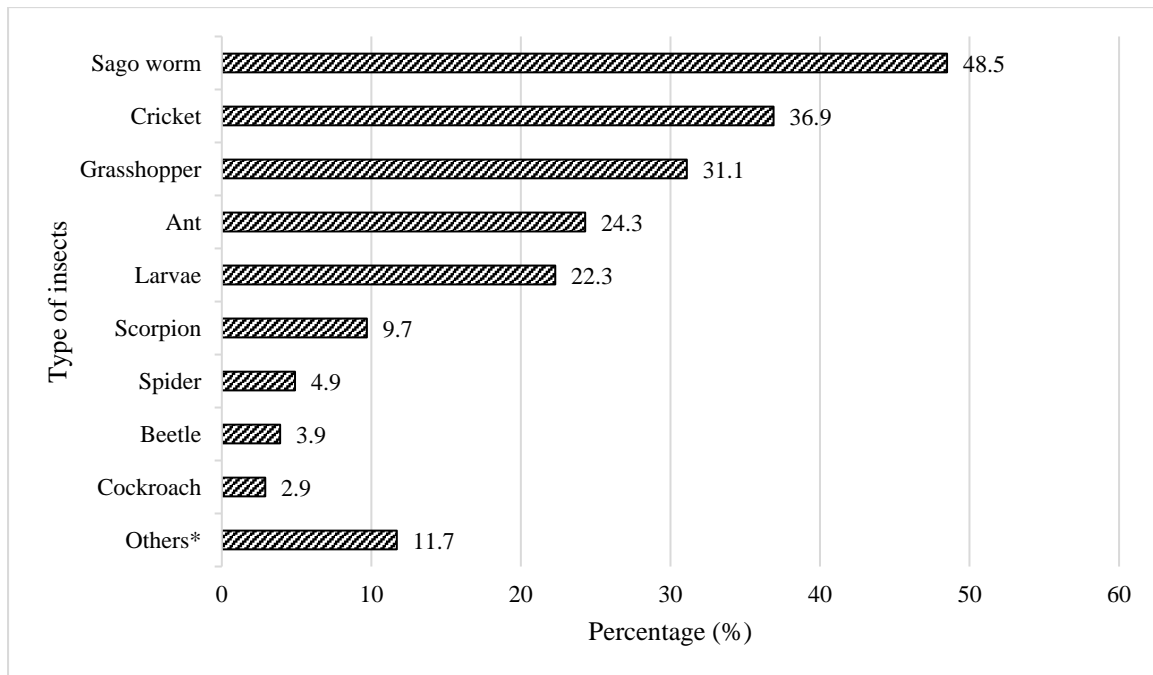
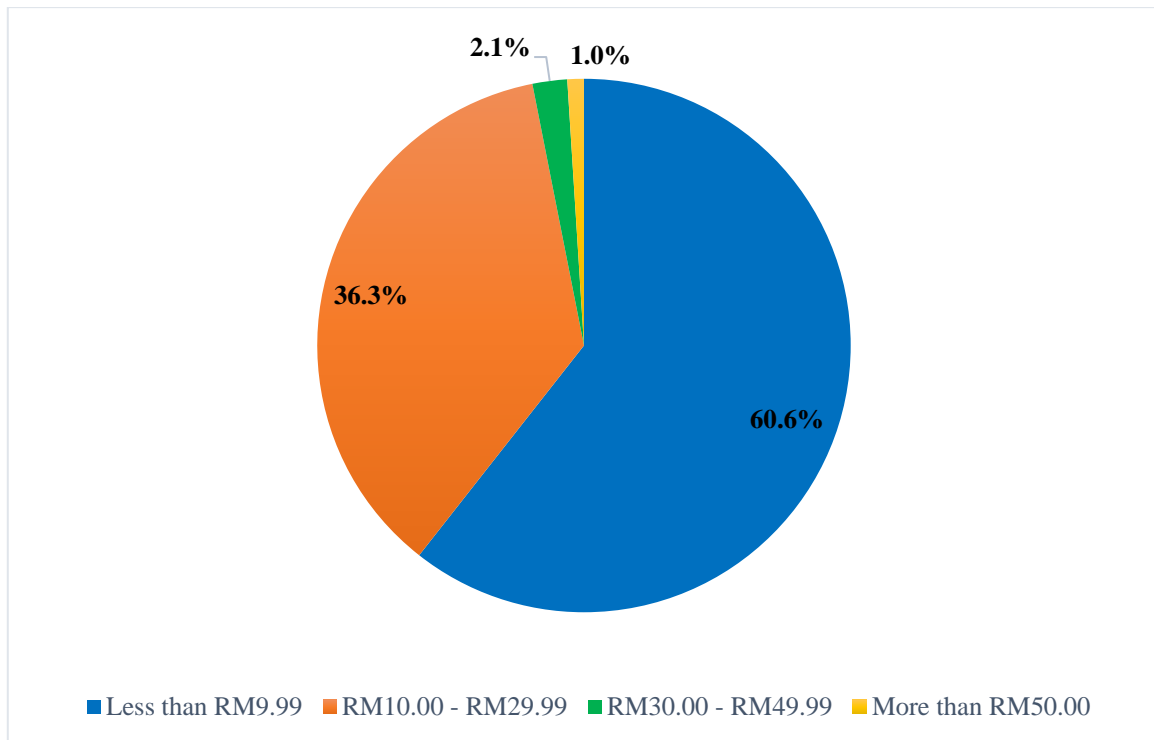


Figure S3: Type of insects consumed by non-Muslim respondents



\*Mealworm, Silkworm, Bee and Black Soldier Fly

Figure S4: Reasonable price for 100g of grasshopper/insects



\*RM, Malaysian Ringgit; 1USD = RM 4.481 as of 29 August 2022

Table S1: Acceptance of grasshoppers/other insects as food based on sociodemographic and socioeconomic characteristics

Sociodemographic Characterises	Will you accept eating grasshoppers/insects as food? n (%)								
	All (n=292)			Klang Valley (n=144)			Kuching (n=148)		
	Yes	No	<i>p</i> value	Yes	No	<i>p</i> value	Yes	No	<i>p</i> value
<b>Sex</b>									
Male	42 (45.2)	51 (54.8)	<i>p</i> <0.001	26 (53.1)	23 (46.9)	<i>p</i> <0.001	16 (36.4)	28 (63.6)	0.126
Female	46 (23.1)	153 (76.9)		21 (22.1)	74 (77.9)		25 (24.0)	79 (76.0)	
<b>Age group</b>									
18 – 29 years old	61 (26.6)	168 (73.4)	0.042	27 (27.3)	72 (72.7)	0.140	34 (26.2)	96 (73.8)	0.244
30 – 39 years old	18 (48.6)	19 (51.4)		15 (46.9)	17 (53.1)		3 (60.0)	2 (40.0)	
40 – 49 years old	7(38.9)	11(61.1)		4 (36.4)	7 (63.6)		3 (42.9)	4 (57.1)	
50 years old and above	2 (40.0)	6 (75.0)		1 (50.0)	1 (50.0)		1 (16.7)	5 (83.3)	
<b>Religion</b>									
Muslim	18 (27.3)	48 (72.7)	0.564	18 (32.1)	38 (67.9)	0.919	0 (0.0)	10 (100.0)	0.062
Non-Muslim	70 (31.0)	156 (69.0)		29 (33.0)	59 (67.0)		41 (29.7)	97 (70.3)	

To be continue...

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	Will you accept eating grasshoppers/insects as food? n (%)								
Sociodemographic Characterises	All (n=292)			Klang Valley (n=144)			Kuching (n=148)		
	Yes	No	<i>p</i> value	Yes	No	<i>p</i> value	Yes	No	<i>p</i> value
<b>Highest education level</b>									
Primary	0(0.0)	1(100.0)	0.562	0(0.0)	0(0.0)	0.568	0(0.0)	1(100.0)	0.695
Secondary	41(27.7)	107(72.3)		18(30.0)	42(70.0)		23(26.1)	65(73.9)	
Tertiary	47(32.9)	96(67.1)		29(34.5)	55(65.5)		18(30.5)	41(69.5)	
<b>Occupation</b>									
Government/Semi-government servant	11 (45.8)	13 (54.2)	0.014	8 (53.3)	7 (46.7)	0.046	3 (33.3)	6 (66.7)	0.221
Private worker	29 (41.4)	41 (58.6)		20 (44.4)	25 (55.6)		9 (36.0)	16 (64.0)	
Self-employed	3 (25.0)	9 (75.0)		1 (16.7)	5 (83.3)		2 (33.3)	4 (66.7)	
Unpaid worker/Unemployed/Retired	3 (12.0)	22 (88.0)		3 (20.0)	12 (80.0)		0 (0.0)	10 (100.0)	
Students	42 (26.1)	119 (73.9)		15 (23.8)	48 (76.2)		27 (27.6)	71 (72.4)	

To be continue...

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Sociodemographic Characterises	Will you accept eating grasshoppers/insects as food?								
	n (%)								
	All (n=292)			Klang Valley (n=144)			Kuching (n=148)		
	Yes	No	<i>p</i> value	Yes	No	<i>p</i> value	Yes	No	<i>p</i> value
<b>Personal income<sup>1</sup></b>									
RM 1799 and below*	41 (24.4)	127 (75.6)	0.010	15 (22.1)	53 (77.9)	0.052	26 (26.0)	74 (74.0)	0.060
RM 1800 – RM 2600	7 (33.3)	14 (66.7)		4 (50.0)	4 (50.0)		3 (23.1)	10 (76.9)	
RM 2601 – RM 5499	23 (47.9)	25 (52.1)		15 (42.9)	20 (57.1)		8 (61.5)	5 (38.5)	
RM 5500 and above	11 (42.3)	15 (57.7)		9 (42.9)	12 (67.4)		2 (40.0)	3 (60.0)	
<b>Household income**2</b>									
Less than RM 4860 (B40 group)	18 (19.1)	76 (80.9)	0.057	6 (20.0)	24 (80.0)	0.240	12 (18.8)	52 (81.3)	0.245
RM 4860 – RM 10959 (M40 group)	36 (32.4)	75 (67.6)		20 (31.7)	43 (68.3)		16 (33.3)	32 (66.7)	
More than RM 10960 (T20 group)	14 (35.0)	26 (72.2)		12 (40.0)	18 (60.0)		2 (24.6)	8 (75.4)	

<sup>1</sup>Percentage of personal income were based on 263 respondents: Klang Valley 132 respondents; Kuching 131 respondents

<sup>2</sup>Percentage of household income were based on 245 respondents: Klang Valley: 123 respondents; Kuching: 122 respondents

\*RM, Malaysian Ringgit; 1USD = RM 4.481 as of 29 August 2022

\*\*Source: Household Income and Basic Amenities Survey Report 2019, Department of Statistics Malaysia

Significant difference was determined using Chi-square or Fisher Exact test

Table S2: Willingness to eat grasshoppers/other insects as food in daily life based on sociodemographic and socioeconomic characteristics

Sociodemographic Characterises	Are you willing to eat grasshoppers/insects as food in your daily life?								
	n (%)								
	All (n=292)			Klang Valley (n=144)			Kuching (n=148)		
	Yes	No	<i>p</i> value	Yes	No	<i>p</i> value	Ya	Tidak	<i>p</i> value
<b>Sex</b>									
Male	26 (28.0)	67 (72.0)	0.003	15 (30.6)	34 (69.4)	0.009	11 (25.0)	33 (75.0)	0.122
Female	27 (13.6)	172 (86.4)		12 (12.6)	83 (87.4)		15 (14.4)	89 (85.6)	
<b>Age group</b>									
18 – 29 years old	37 (16.2)	192 (83.8)	0.226	17 (17.2)	82 (82.8)	0.736	20 (15.4)	110 (84.6)	0.090
30 – 39 years old	10 (27.0)	27 (73.0)		8 (25.0)	24 (75.0)		2 (40.0)	3 (60.0)	
40 – 49 years old	5 (27.8)	13 (72.2)		2 (18.2)	9 (81.8)		3 (42.9)	4 (57.1)	
50 years old and above	1 (18.2)	7 (87.5)		0 (0.0)	2 (100.0)		1 (16,7)	5 (83.3)	
<b>Religion</b>									
Muslim	9 (13.6)	57 (86.4)	0.279	9 (16.1)	47 (83.9)	0.511	0 (0.0)	10 (100.0)	0.210
Non-Muslim	44 (19.5)	182 (80.5)		18 (20.5)	70 (79.5)		26 (18.8)	112 (81.2)	

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Are you willing to eat grasshoppers/insects as food in your daily life?									
n (%)									
Sociodemographic Characterises	All (n=292)			Klang Valley (n=144)			Kuching (n=148)		
	Yes	No	<i>p</i> value	Yes	No	<i>p</i> value	Yes	No	<i>p</i> value
<b>Highest education level</b>									
Primary	0(0.0)	1(100.0)	0.322	0(0.0)	0(0.0)	0.914	0(0.0)	1(100.0)	0.117
Secondary	22(14.9)	126(85.1)		11(18.3)	49(81.7)		11(12.5)	77(87.5)	
Tertiary	31(21.7)	112(78.3)		16(19.0)	68(81.0)		15(25.4)	44(74.6)	
<b>Occupation</b>									
Government/Semi-government servant	6 (25.0)	18 (75.0)	0.001	4 (26.7)	11 (73.3)	0.059	2 (22.2)	7 (77.8)	0.006
Private worker	22 (31.4)	48 (68.6)		13 (28.9)	32 (71.1)		9 (36.0)	16 (64.0)	
Self-employed	3 (25.0)	9 (75.0)		0 (0.0)	6 (100.0)		3 (50.0)	3 (50.0)	
Unpaid worker/	0 (0.0)	25 (100.0)		0 (0.0)	15 (100.0)		0 (0.0)	10 (100.0)	
Unemployed/Retired									
Students	22 (13.7)	139 (86.3)		10 (15.9)	53 (84.1)		12 (12.2)	86 (87.8)	

To be continue...

...continue

Sociodemographic Characterises	Are you willing to eat grasshoppers/insects as food in your daily life?								
	n (%)								
	All (n=292)			Klang Valley (n=144)			Kuching (n=148)		
	Yes	No	<i>p</i> value	Yes	No	<i>p</i> value	Yes	No	<i>p</i> value
<b>Personal income<sup>1</sup></b>									
RM 1799 and below*	23 (13.7)	145 (86.3)	0.028	9 (13.2)	59 (86.8)	0.357	14 (14.0)	86 (86.0)	0.016
RM 1800 – RM 2600	4 (19.0)	17 (81.0)		1 (12.5)	7 (87.5)		3 (23.1)	10 (76.9)	
RM 2601 – RM 5499	15 (31.3)	33 (68.8)		9 (25.7)	26 (74.3)		6 (46.2)	7 (53.8)	
RM 5500 and above	7 (26.9)	19 (73.1)		5 (23.9)	16 (76.2)		2 (40.0)	3 (60.0)	
<b>Household income**<sup>2</sup></b>									
Less than RM 4860 (B40 group)	7 (7.4)	87 (92.6)	0.008	3 (10.0)	27 (90.0)	0.215	4 (6.3)	60 (93.8)	0.016
RM 4860 – RM 10959 (M40 group)	20 (18.0)	91 (82.0)		10 (15.9)	53 (84.1)		10 (20.8)	38 (79.2)	
More than RM 10960 (T20 group)	11 (27.5)	29 (72.5)		8 (26.7)	22 (73.3)		3 (30.0)	7 (70.0)	

<sup>1</sup>Percentage of personal income were based on 263 respondents: Klang Valley 132 respondents; Kuching 131 respondents

<sup>2</sup>Percentage of household income were based on 245 respondents: Klang Valley: 123 respondents; Kuching: 122 respondents

\*RM, Malaysian Ringgit; 1USD = RM 4.481 as of 29 August 2022

\*\*Source: Household Income and Basic Amenities Survey Report 2019, Department of Statistics Malaysia

Significant difference was determined using Chi-square or Fisher Exact test

Table S3: Visual acceptability of respondents based on study location

Forms of grasshoppers/ insects <sup>2</sup>	Mean Rank (n=292)			<i>p</i> value <sup>1</sup>
	All (n=292)	Klang Valley (n=144)	Kuching (n=148)	
Roasted grasshoppers/insects	2.64 <sup>a</sup>	2.59 <sup>a</sup>	2.68 <sup>a</sup>	0.380
Chocolate-coated grasshoppers/insects	2.18 <sup>b</sup>	2.18 <sup>b</sup>	2.18 <sup>b</sup>	0.460
Cooked meal containing grasshoppers/insects	2.40 <sup>c</sup>	2.43 <sup>c</sup>	2.39 <sup>c</sup>	0.254
Biscuit made with grasshopper/insects' flour	2.77 <sup>a</sup>	2.80 <sup>a</sup>	2.74 <sup>a</sup>	0.183
<b><i>p</i> value</b>	<i>p</i> <0.001***	<i>p</i> <0.001***	<i>p</i> <0.001***	

<sup>a,b,c</sup>Different letters in a column indicate significant differences ( $p<0.05$ ) using Friedman test and Post Hoc Wilcoxon signed rank test

<sup>1</sup>No significant different using Mann-Whitney U test

<sup>2</sup>Mean rank was reported