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► **To cite this version:**

Carlos Gómez-Corona, Dominique Valentin. The crispy cricket - Attitudes and tradition in insect consumption. 15. Pangborn Sensory Science Symposium, Aug 2023, Nantes, France. , 2023. hal-04207032

**HAL Id: hal-04207032**

**<https://institut-agro-dijon.hal.science/hal-04207032>**

Submitted on 18 Sep 2023

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# The crispy cricket - Attitudes and tradition in insect consumption

Carlos GOMEZ-CORONA<sup>1</sup> & Dominique VALENTIN<sup>2</sup>

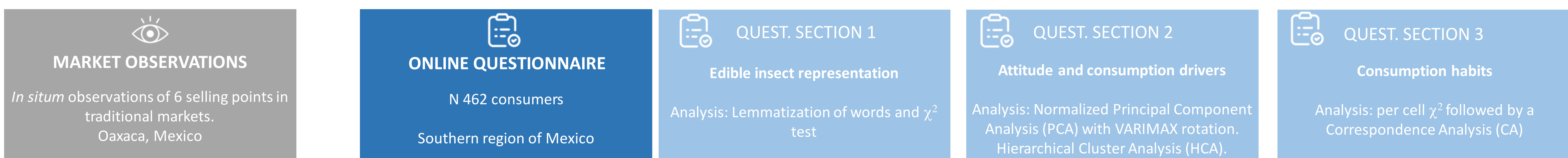
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Consuming insects as a solution to climate change became popular in scientific publications but, most of these publications focus on western countries. The objective of this study was to explore attitudes and motivations towards insect consumption in a country where insect consumption is common (e.g., Mexico)..

The rationale for this work is that rather than telling people that they should eat insects for their protein content or because they are sustainable, it may be more efficient to show them how people are currently consuming insects as part of their current food habits

## METHODOLOGY



## RESULTS

A total of 462 individuals responded to the questionnaire among which 278 (60%) declared eating insects and 184 (40%) not eating insects

### MARKET OBSERVATIONS

An important aspect highlighted by these observations was the “normality” of the sale and consumption of insects in the markets of the city.

Almost every corner of the market had an insect stand with different varieties and preparation of crickets, chicatana ants, maguey worms, and sub-products, usually salt for crickets, and salt & chili for dried maguey worms.



Figure 1. Images from the unstructured observations conducted in the city of Oaxaca in January 2023. Images in order from left to right: Selling stand outside Oaxaca main market, Dried and toasted chicatana ants, Fried maguey worm in a stick; Varied sizes and preparation of red crickets.

### ATTITUDES & CONSUMPTION DRIVERS

A PCA revealed four main attitude dimensions: Eating insect is 1) a habit from the past, 2) a tradition, 3) for snack and special occasions, 4) trendy. Non-eaters disagree in the tradition-dimension. Insect-eaters’ drivers were mostly nutritional and sensory, liking crispy texture, spiciness, and salty taste of insects,

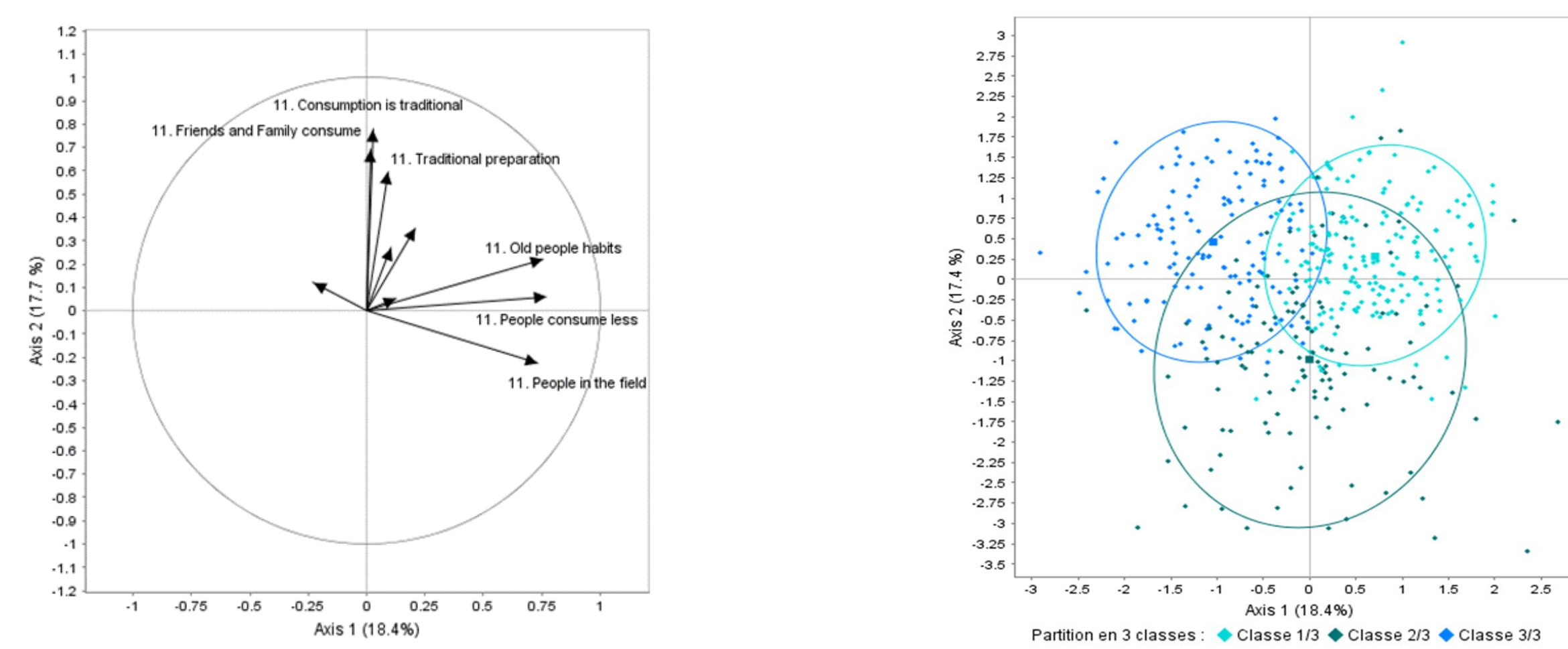
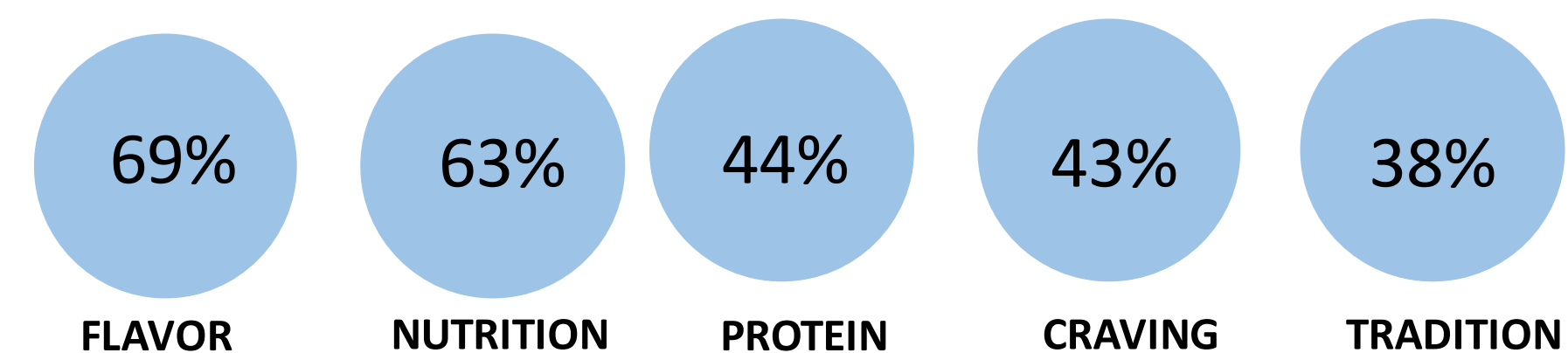


Figure 3. Top. PCA with varimax rotation of the respondent-by-attitude matrix. Bottom. Projection of the three clusters yielded by HCA.

Key drivers for consumption among insect-eaters.



Sustainability, convenience, and affordability were not important drivers.

### ATTITUDES & CONSUMPTION DRIVERS

Concerning culinary habits, participants declared to prepare each insect in different ways (taco, complex dishes).

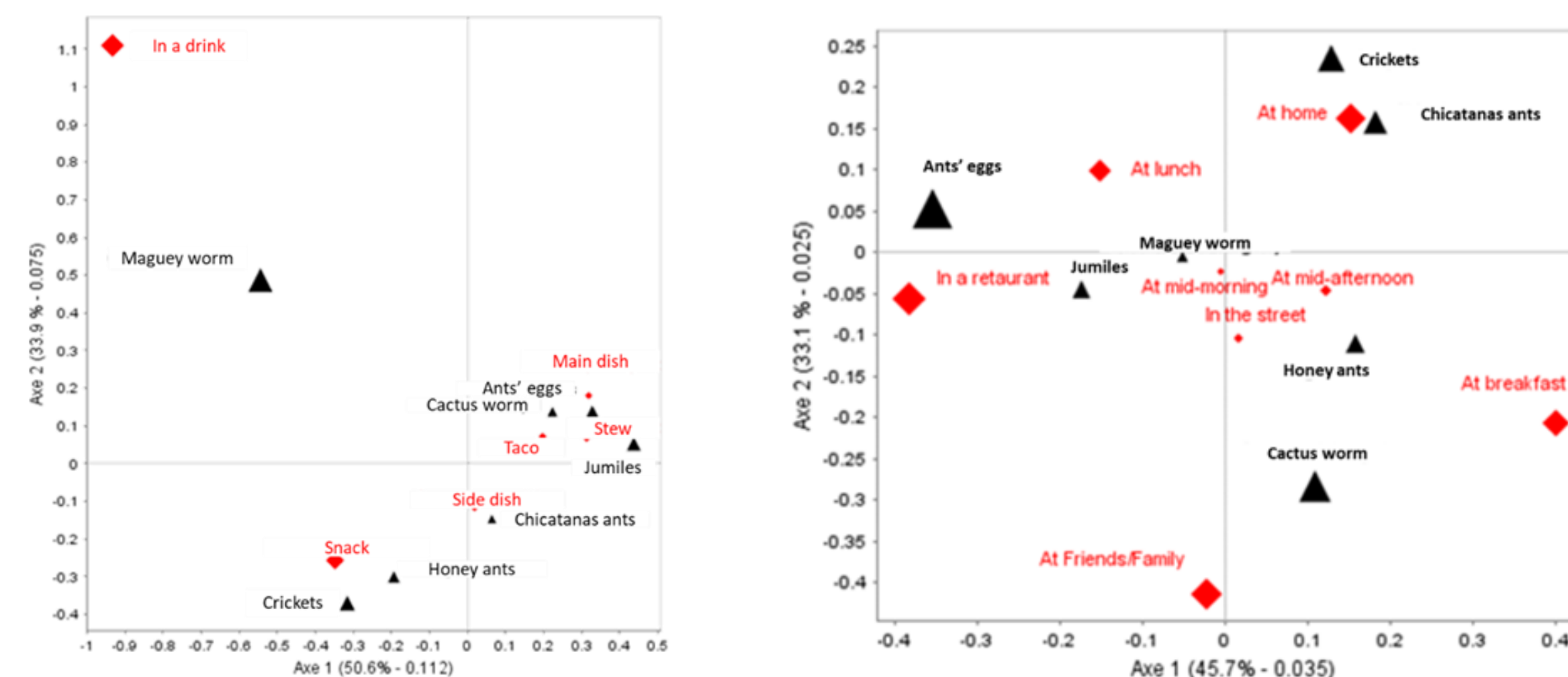


Figure 4. Left. CA Form of consumption of the different insects consumed. Right. CA of the relevant occasion of consumption.

### EDIBLE INSECT REPRESENTATION

The word clouds illustrating the terms generated by the insect eater and non-eater respondents when prompted with the inducer word “edible insects in Mexico” are presented Fig. 2. Globally the two word-clouds are quite similar. Both are clearly dominated by the word cricket, followed by other types of insects such as worm, ant, maguey worm (cactus worm), or grasshopper.

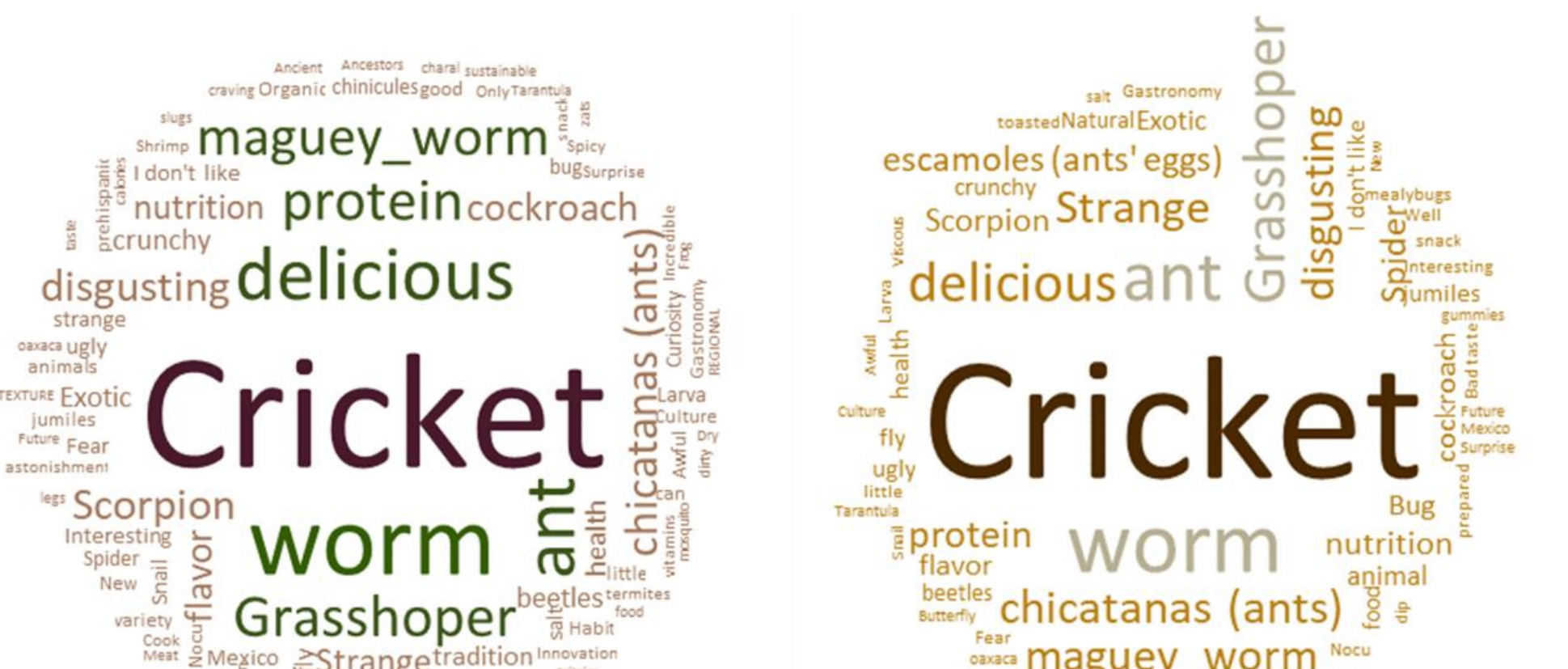


Table 1. Categories of the evoked words by insect eaters, and non-eaters.

	Insect eaters	Insect non-eaters
Type of insect	48.21	51.53
Health/nutrition	8.80	7.95
Hedonic+ (positive)	7.47	5.35
Gastronomy	7.27	8.87
New/different	6.44	7.03
Hedonic- (negative)	5.83	7.03
Sensory	5.22	3.97
History/culture	4.29	1.98
Other animals	3.88	4.43
Emotion	2.56	1.83

Figure 2 LEFT. Word clouds summarising the insect eaters’ (left panel) and non-eaters’ (right panel) sub-corpora. RIGHT. Frequency of occurrence of the categories of terms for the insect eater’s and non-eater’s sub-corpora.

A  $\chi^2$  analysis showed a significant sex effect ( $\chi^2 = 41.13$ ,  $p < .0001$ ). Men tended to generate more terms in the “type of insect” category (57% for men vs. 41% for women) whereas women produced more “history/culture” (6.5 vs. 1.5%) and “sensory” terms (6.9 vs. 3.2%).

Our results highlight the fact that the vision of eating insects as disgusting and that insect need to be “invisible” to be accepted, is culturally acquired among western countries. We suggest that hedonic persuasion strategies based on current practices may be more efficient in promoting entomophagy than nutritional and sustainable messages.

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