

# Highlighting of allergens found in edible crickets (*Ornithachris turbida cavroisi*) from Niger using 2D Western blot – a clinical case report

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## Introduction

More than two billion people consume insects every day for their nutritional intake. However, the protein composition and the potential molecular allergens present in this new food matrix have still not been studied in detail. We described the case of an allergic patient to crickets (*Ornithachris turbida cavroisi*) from Niger in which we identified the molecular allergens.

## Methods

A 40-year-old man presented a Grade II anaphylactic shock after consumption. Following this, a prick-prick test was performed and the serum of this patient was collected. Afterthat, a total cricket protein extraction was carried out and proteins were separated on the basis of their isoelectric point (Ip) and molecular weight. Moreover, the molecular allergen reactivity profile was determine by 1D and 2D Western blots (WB).

## Results

The prick-prick test was positive. The 1D WB showed the sIgE reactivity against three proteins which were confirmed using 2D WB. Indeed, the 2D WB confirmed the sIgE reactivity against a 17 kDa protein, with an Ip of 4, that could be troponin C; against a 37 kDa, with an Ip of 3-4, that could be tropomyosin and against a 37 kDa, with an Ip of 6-7, that could be arginine kinase (AK).

## Discussion

The underlying assumption suggests that the following proteins: troponin C, tropomyosin and AK are allergens found in edible crickets. This hypothesis will be confirmed by mass spectrometry.

## Conclusion

The allergens found in edible crickets that are implicated in a Grade II anaphylactic shock following consumption were troponin C, tropomyosin and AK.