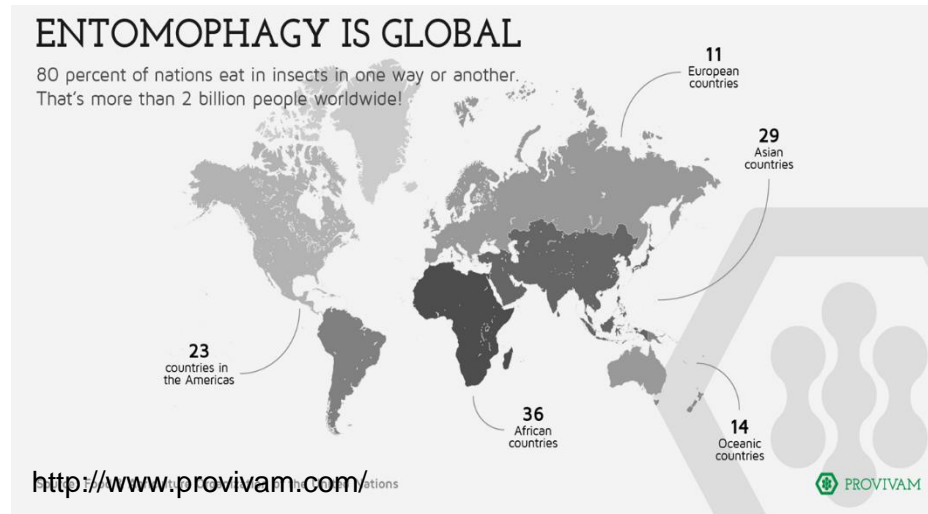


Highlighting of allergens found in edible crickets (*Ornithachris turbida cavroisi*) from Niger using 2D Western blot

- a clinical case report -



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40 y.o. man presenting crickets, caterpillars and shrimps allergies

Clinical symptom : anaphylactic shock to crickets

SPT :

	(+)	(-)	Cricket*	Cockroach*	Caterpillar*	shrimp	House dust mites
Diameter (mm)	5	0	8	6	7	10	0

* Prick to prick

slgE measurements :

slgE shrimps extract = 56,7 kUA/L

slgE shrimps tropomyosin (rPen a 1) = 0,11 kUA/L

slgE dermatophagoides pteronyssinus = 5,17 kUA/L

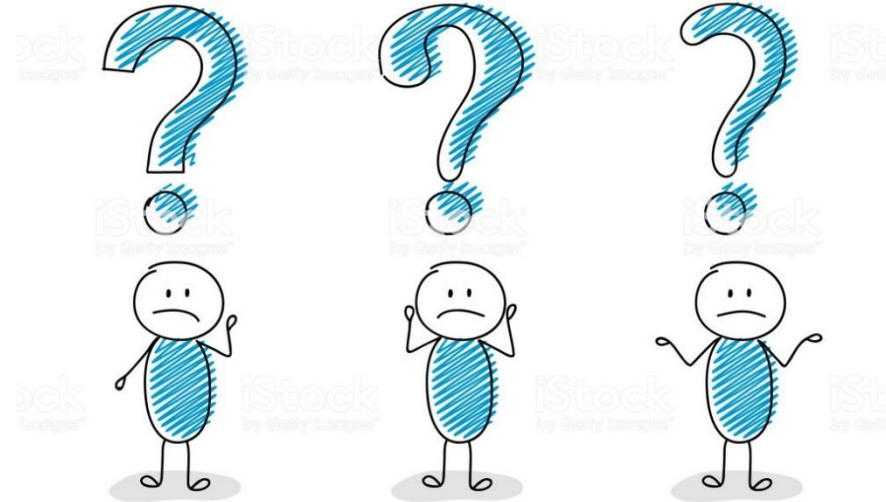
slgE dermatophagoides farinae = 5,40 kUA/L

slgE house dust mites (rDer p1) = 0,08 kUA/L

slgE house dust mites (rDer p2) = 0,05 kUA/L

slgE house dust mites tropomyosin (rDer p10) = 0,07 kUA/L

slgE CCD = 0,07 kUA/L

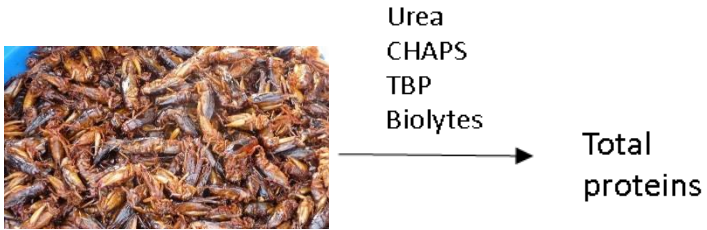


What are the responsible allergens of crickets allergy ?

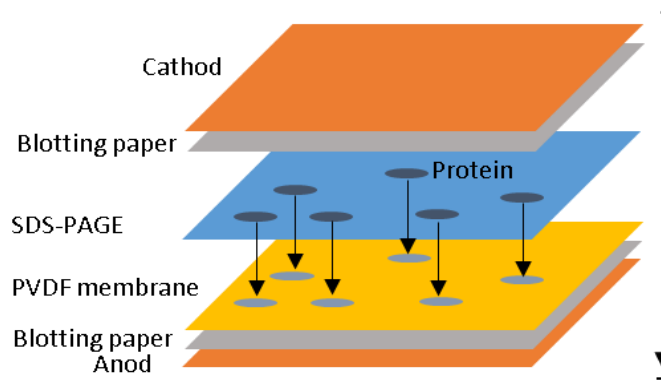
➔ A 1D and 2D Western blots were performed to answer to this question !

How to do that ?

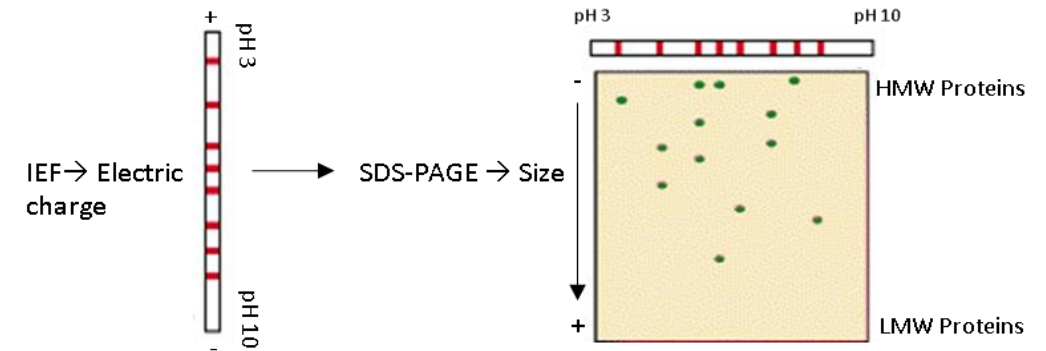
1. Protein extraction



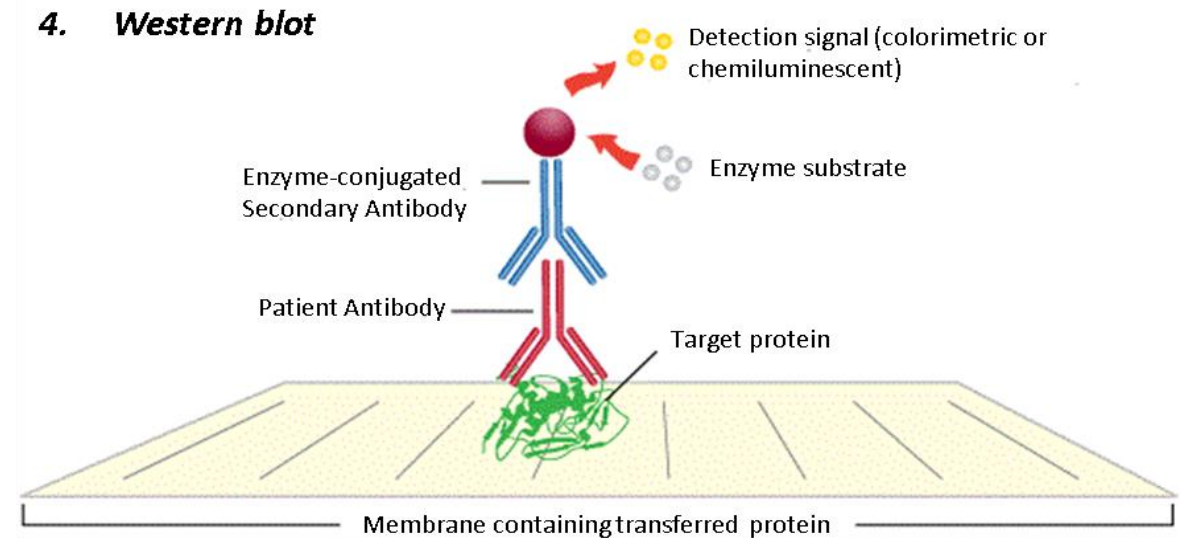
3. Protein transfer



2. 2DE Electrophoresis



4. Western blot





1D SDS-PAGE :

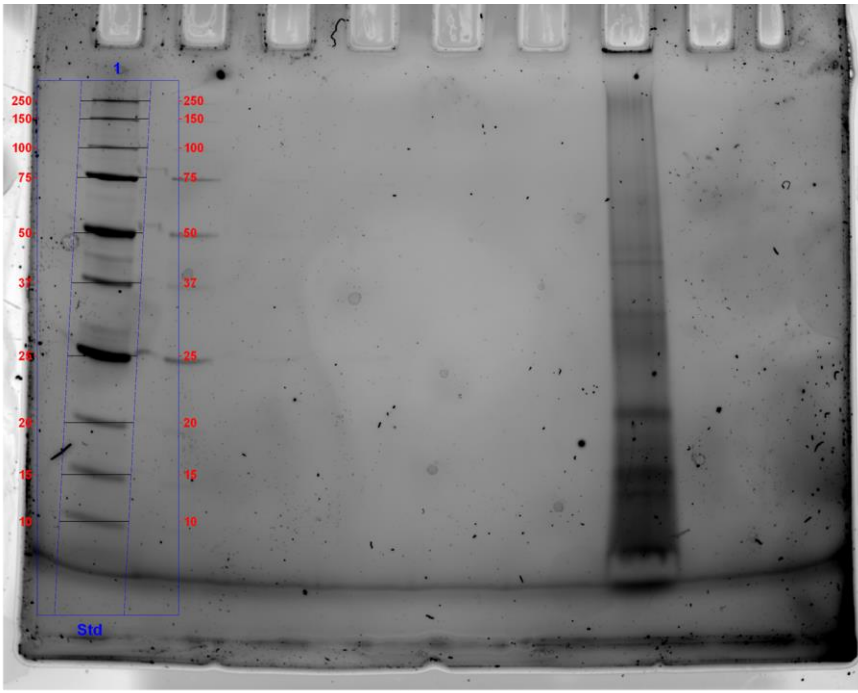


Figure 1 : SDS-PAGE (sodium dodecyl sulfate polyacrylamide gel electrophoresis) with crickets extract.

1D WB :

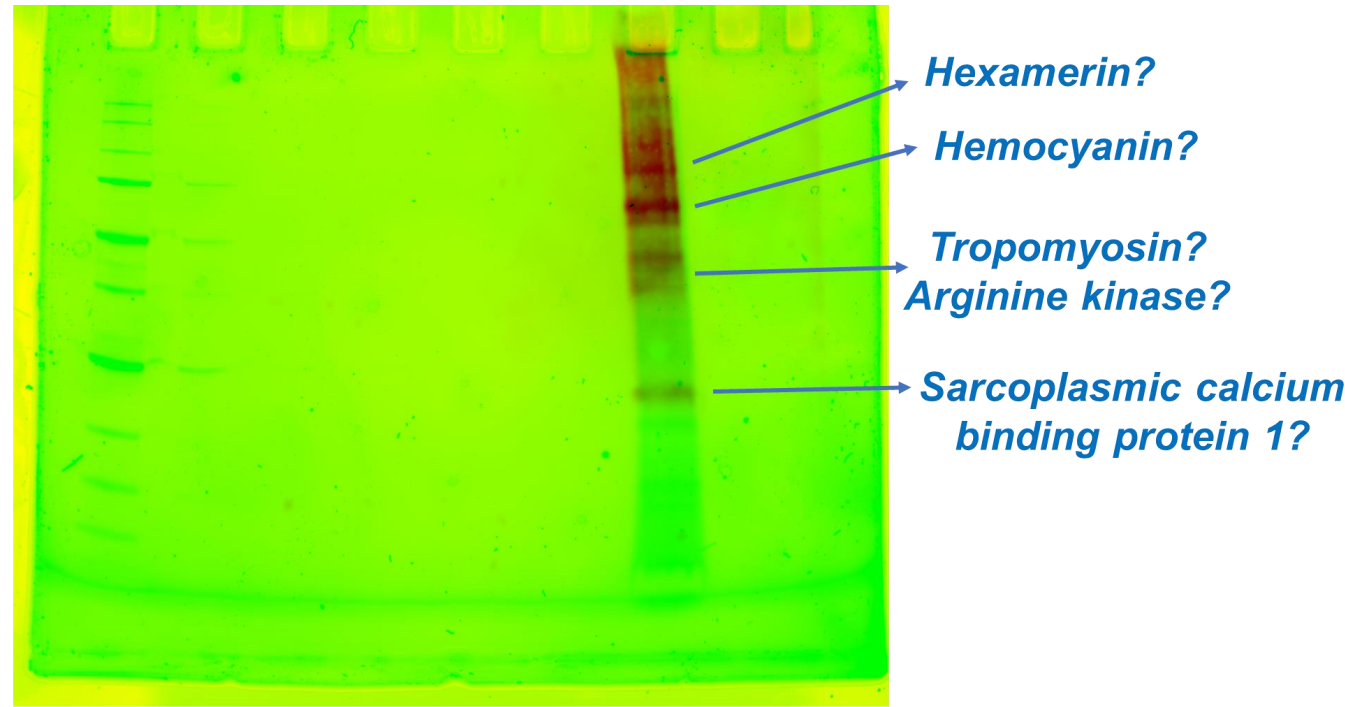


Figure 2 : 1D WB showed the sIgE reactivity against four proteins with crickets extract.



2D SDS-PAGE :

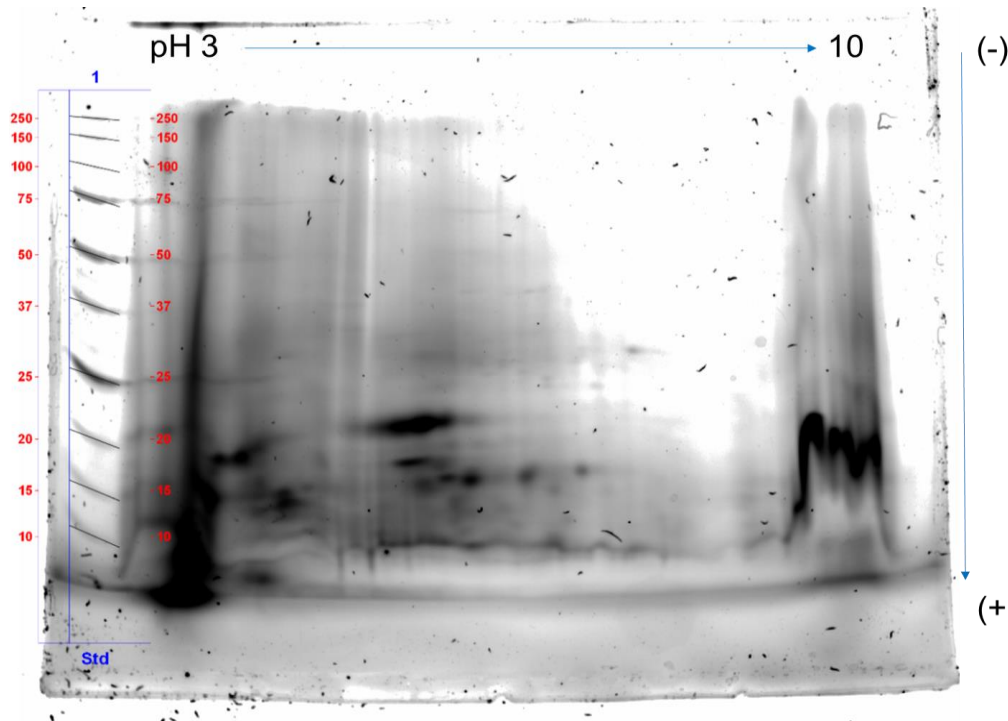


Figure 3 : 2D SDS-PAGE with crickets extract.

2D WB :

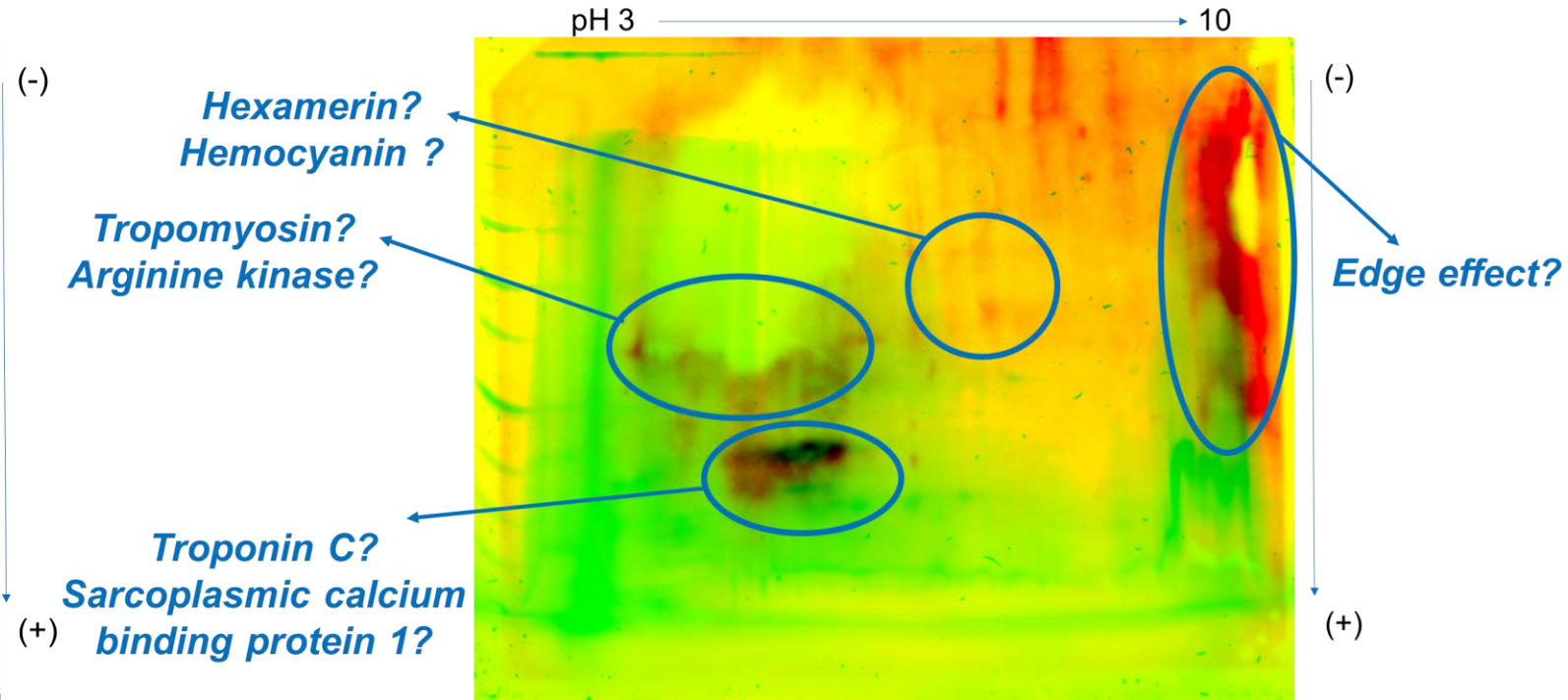


Figure 4 : 2D WB showed the sIgE reactivity with crickets extract.



- **Tropomyosin, arginine Kinase, troponin C, sarcoplasmic calcium binding protein 1, hemocyanin and/or hexamerin** are highlighted in crickets allergy by **2D WB** according to the physical and chemical characteristics of proteins databases
- The identification of these proteins should be confirmed by mass spectrometry (LC-MS/MS)
- You should be aware of potential allergic reaction if you eat crickets...
 - It should be investigated !



Thank you for your attention

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