



**MeBoP**  
Middle Eastern Biology  
of Parasitism

**University Hospital Center of Constantine  
laboratory of medical parasitology-mycology  
University of Constantine 3**

**Middle Eastern Biology of Parasitism, University of Bern  
Switzerland, 23-05 August**

**Dr. Sofiane Mizi Allaoua**

**Resident pharmacist**

# Location of Algeria in World

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# University Hospital center of Constantine Laboratory of parasitology-mycology

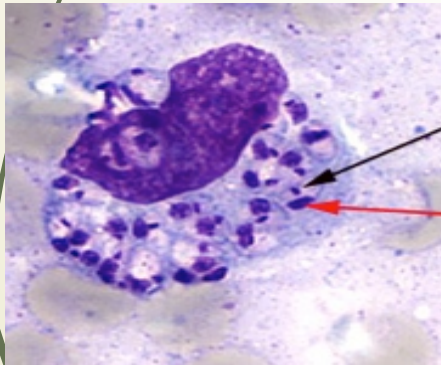


## Presentation of the laboratory

The Laboratory performs three main functions: research, teaching, and hospital diagnosis in Parasitology-Mycology

The team work is composed of many professors, Assistant professors, residents and many technicians

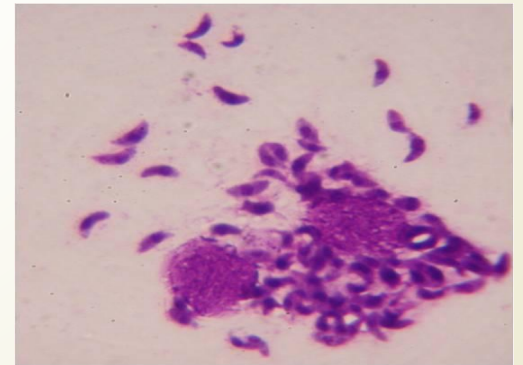
Conduct and support research into the epidemiology, diagnosis, treatment, and prevention of infectious diseases particularly those are endemic in Algeria



**Leishmaniasis**



**Hydatidosis**



**Toxoplasmosis**



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## Pr T.Moulahem and Dr I.Aissaoui



# the project's objectives

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graph TD; A([the project's objectives]) --> B([1  
Epidemiological study on the  
hydatid cyst in children in  
eastern Algeria]); A --> C([2  
scolical effects of some  
natural drugs in vitro]);
```

**1**

**Epidemiological  
study on the  
hydatid cyst in  
children in  
eastern Algeria**

**2**

**scolical  
effects of some  
natural drugs  
in vitro**



# 1. Epidemiological study on the hydatid cyst in children in eastern Algeria, in collaboration with the pediatric surgery department





The main objectives of this study is:

- ❖ to clarify the epidemiological aspects of this disease and to compare it with other national and international studies.
- ❖ The fertility rate of hydatid cysts.
- ❖ The viability of protoscoleces.



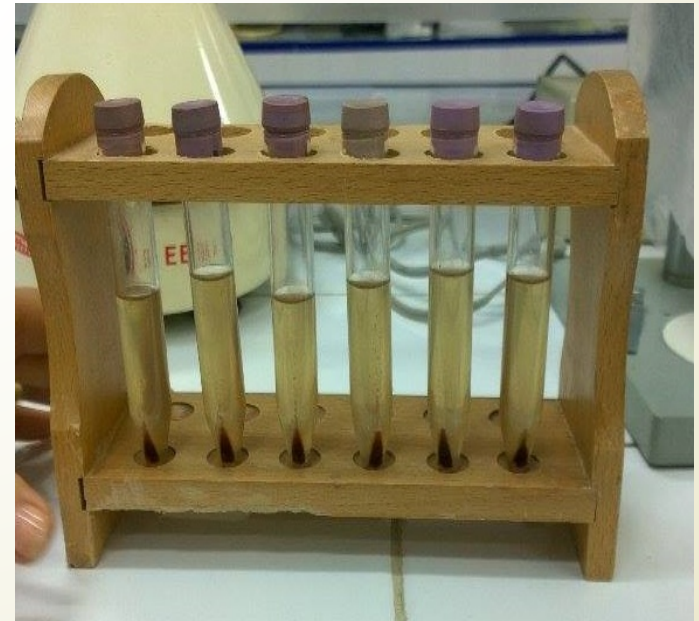
## Reception of hydatid cysts from pediatric surgery

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# Collection of protoscoleces

10





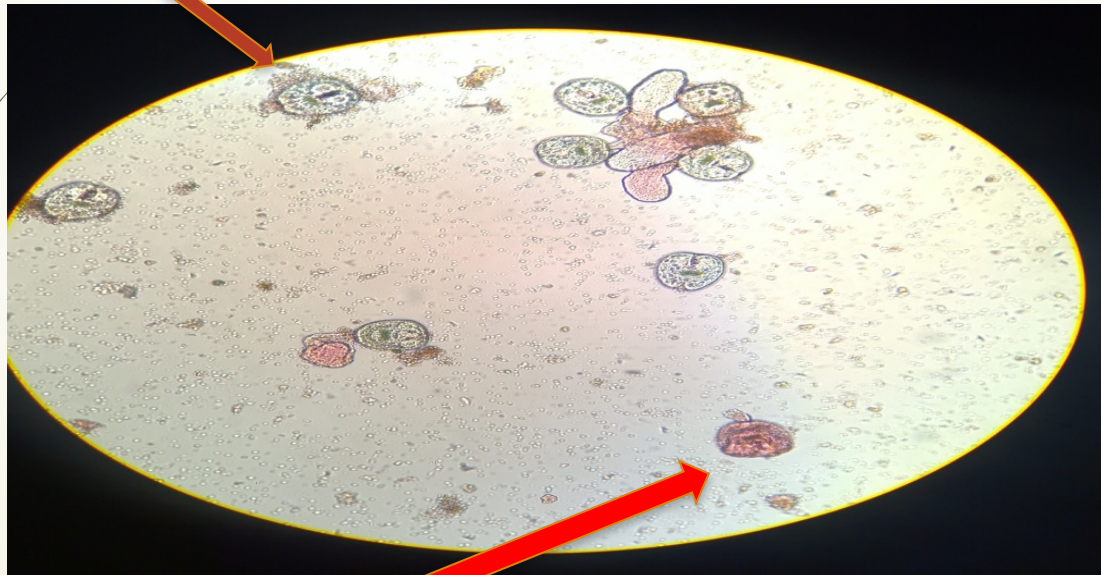
## Direct examination under a light microscope



Presence of protoscoleces= **fertile cyst**

# Viability test

Incoloured  
protoscoleces: **Viable**



Coloured  
protoscoleces: **Dead**



# RESULTS

The word 'RESULTS' is written in large, bold, green 3D capital letters. A magnifying glass with a silver frame and a black handle is positioned over the letters 'S' and 'U', with the lens centered on the 'S'.

The lung is the most affected organ (45%), followed by the liver (33%)

The most affected age groups in our series range from 6 to 9 years and 11 to 14 years

83% of the cysts were fertile and the collected protoscoleces were viable

**These results corroborate the results of other studies done in Algeria**

*(Zait H, et al.. 2013)*

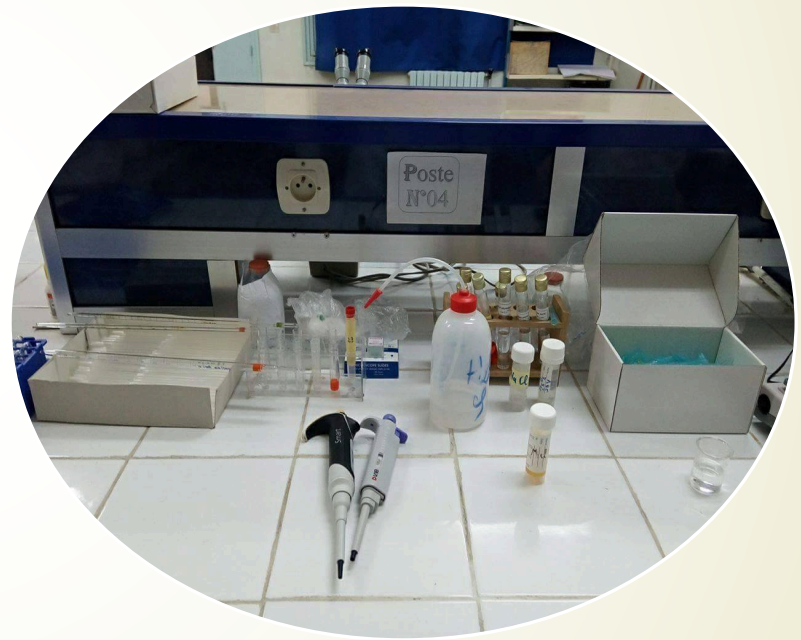
*(Zait H, et al.. 2014)*

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## 2. Evaluation of scolical activity of some drugs



**1.Preparation of drug extracts  
laboratory of pharmacognosy**



**2.Test of the scolical effect of  
drugs extracts  
Laboratory of parasitology**



**chemical agents**

**Find less harmful and more effective scolical solutions  
for use in hydatid cyst surgery**



# Drugs tested



**Ginger**



**Garlic**



**Honey**



**pomegrenate**

# Effectiveness of extracts on protoscolices

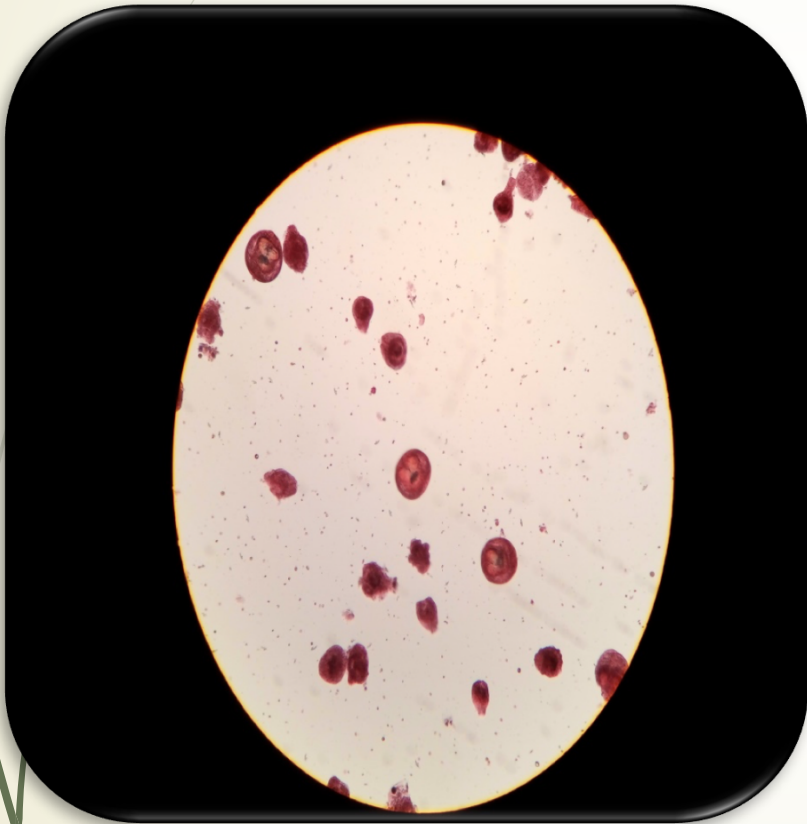
PROTOSCOLICES SOLUTION TO BE TESTED



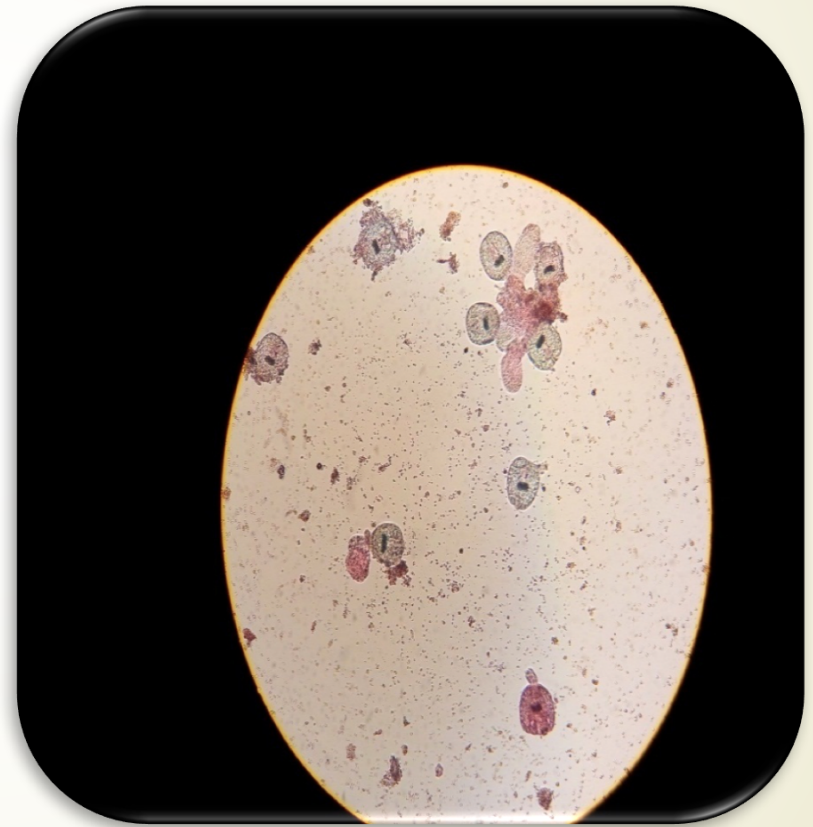
Incubation at 37°C



# Viability test



**Couloured Dead**



**Incouloured Viable**





**RESULTS**

A 3D rendering of the word "RESULTS" in a bold, green, sans-serif font. The letters are thick and have a slight shadow underneath. A magnifying glass with a silver frame and a black handle is positioned over the letter 'S', with the lens centered on it. The background is a plain white rectangle.

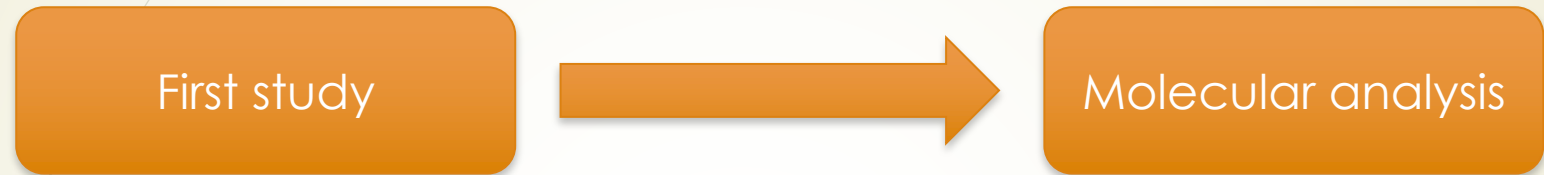
# pomegrenate

Concentrations	test	% of mortality after exposure	
		10 min	30 min
10 mg/ml	1	96.1	95.5
	2	97.7	97.1
	average	96.9	96.3
30 mg/ml	1	100	100
	2	100	100
	average	100	100
50 mg/ml	1	100	100
	2	99.20	100
	average	99.6	100

# Ginger

Concentrations	Tests	% of mortality after exposure	
		10 min	30 min
5 mg/ml	1	100	100
	2	100	100
	Average	100	100
10 mg/ml	1	100	100
	2	100	100
	Average	100	100
30 mg/ml	1	100	100
	2	100	100
	Average	100	100





- ❖ The characterization of the species/genotypes responsible for human hydatidosis in Est of Algeria in order to adapt the measures of control and prevention against this parasitic disease.
- ❖ Researching a link between the species/genotypes and: the cyst's localization, The fertility rate of cysts, multiple localizations, risk of recurrence, etc.

**Second study**

- ❖ evaluated the safety of ginger's and pomegrenate's extracts for pharmaceutical purposes as a new scolicial agent in hydatic surgery .
- ❖ determined in vivo the efficacy of this extracts using an animal model of hydatid infection.
- ❖ Identify and isolate the active compounds responsible for the scolicial effect.

- ❖ The centralization of research facilities and new diagnostic techniques in the capital Algiers.
- ❖ Lack of funding support to the parasitological projects or to have access to many materials/techniques such as sequencing, animal models, cellular biology,...
- ❖ Underestimate the great burden of parasitic diseases on public health by the sanitary authorities
- ❖ Low research collaboration with other countries





**THANK YOU**  
for your  
**ATTENTION!**