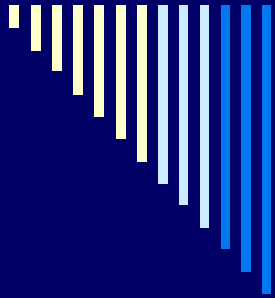




**Ugundan fever**  
Marije Bomers, Netherlands  
September 2009



# ♂ Israel 36 yrs

- 28-3 Uganda
- 11-5 returned NL
- 26-5 fever, chills, myalgia since 1-2 days
- No cough, dysuria, diarrhea, headache, rash, arthralgia, no insect bites, no contact farm animals etc.  
Swimming in 'bilharzia- free' fresh water



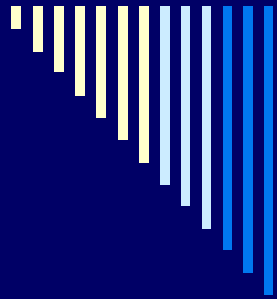
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# Physical examination



- Did not appear acutely ill
  - T38.9, HR 79/min, RR 125/ 70 mmHg
  - Liver 3 cm palpable, spleen –
-



# Laboratory results



□ WBC 4.7 4-10 x 10<sup>9</sup> /l

□ 'left shift'

□ Band cells, toxic granulation

□ Hb 8.9 7.5-10 mmol/l

□ MCV 82 80-100 fl

□ Tr 95 150-400 x 10<sup>9</sup> /l

□ CRP 46 <8 mg/l

□ AST 55 < 40 U/l

□ ALT 86 < 35 U/l

□ LD 293 < 250 U/l

□ ALP 94 < 120 U.l

□ TBIL 4 < 20 umol/l

□ GGT 60 < 40 U/l

□ blood smear: no malaria parasites...

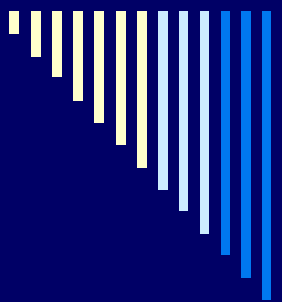


- Urticarial rash
- Diarrhea
- Wheezing
- ↑ Liver enzymes
- Eosinophilia ( $2,1 \times 10^9/l$ )

# Differential diagnosis



- Urticaria, eosinophilia, fever from Uganda:
  - Acute parasitic infection:  
Acute schistosomiasis/ Katayama fever?
    - Other parasitic infection: strongyloides, ankylostomiasis, liver flukes, trichinosis
    - Other:
      - Viral (EBV, CMV, hepatitis B, HIV)
      - Bacterial (i.e. typhoid fever)
      - Spirochetal (ricketsial, leptospirosis)



eg. c

Definitief rapport, bewaren! printdatum: 20/06/2007 Versie: 1

**Klinische gegevens:**

Gezwommen in Uganda, nu urticaria.

**Parasitologie:**

**Anamnese:**

Recent verblijf in buitenland ?	Ja
Land	Uganda
Periode	Onbekend
Eosinofilie	Onbekend

**Materiaal: Serum** (Afnamedatum/tijd :07-06-07 om 09:55 uur.)

**Schistosoma:**

IgM tegen Schistosoma Worm-Ag in serum	1:1024 (1)
IgG tegen Schistosoma Ei-Ag in serum	<1:32

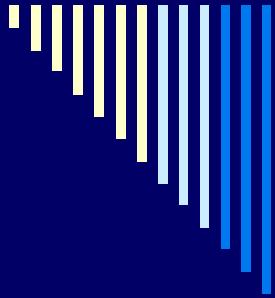
(1) Serologische aanwijzing voor een infectie met *Schistosoma spec.*  
IFA positief, ELISA negatief. Deze uitslag kan duiden op een monosexuele infectie of op een acute schistosomiasis zonder dat (vooralsnog) eieren worden geproduceerd.  
Grenswaarden: *Schistosoma* IFA IgM worm-Ag 1:16, ELISA IgG Ei-Ag 1:32

**Strongyloides:**

IgG1/IgG4 tegen <i>Strongyloides</i> in serum	<1:40 (2)
---	-----------

(2) Geen serologische aanwijzing voor een infectie met *Strongyloides stercoralis*. Bij een recente *Strongyloides*-infectie, zonder aanwijzingen voor autoinfectie, kan de serologie negatief zijn.  
Grenswaarde: *Strongyloides* ELISA IgG1/IgG4 1:40

Two weeks later:  
IgG against  
egg- antigen:  
1 : 512



□ In summary:

- Fever, urticaria, eosinophilia and diarrhea from Uganda
- Acute schistosomiasis – infection = Katayama- fever

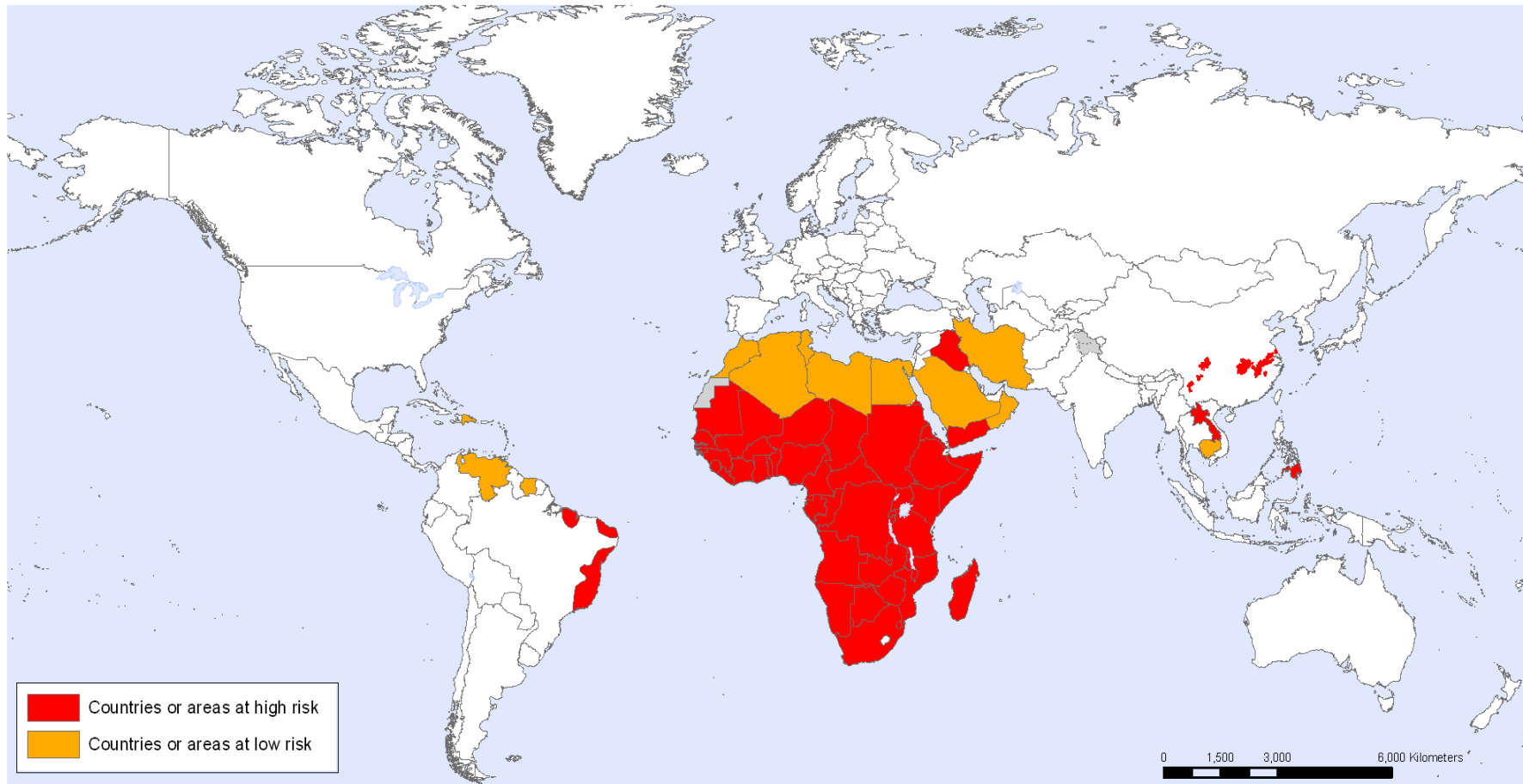


# Schistosomiasis or Bilharzia



- Prof. Bilharz
- Caused by parasitic trematode worms (schistosomes) that reside in abdominal veins.
- 5 different species, sub Saharan Africa:
  - *S. mansoni* (mes. vein)
  - *S. haematobium* (urinary tract)

## Schistosomiasis, countries or areas at risk, 2007

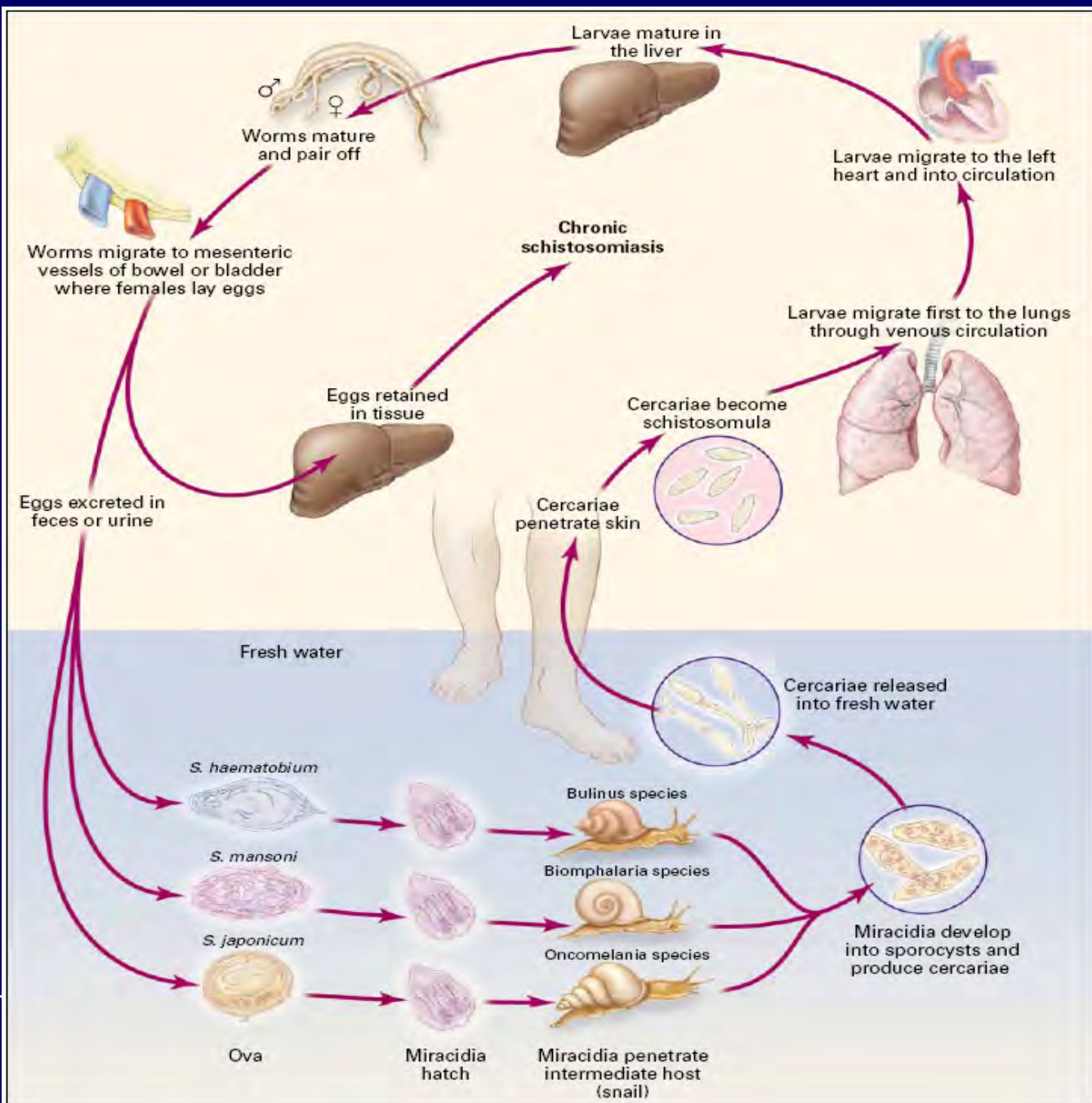


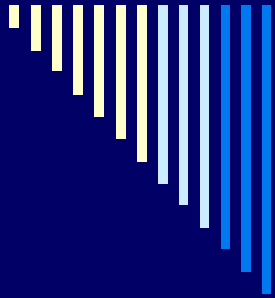
The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization  
Map Production: Public Health Information  
and Geographic Information Systems (GIS)  
World Health Organization



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- Immediate manifestations (day 1-7):
  - Maculopapular eruption on the skin



- Acute schistosomiasis (day 14- 84):
  - Fever, headache, generalized myalgias, right upper quadrant pain, bloody diarrhea
- Chronic schistosomiasis
  - Chronic liver and intestinal fibrosis
  - Fibrosis, stricturing and calcification urinary tract

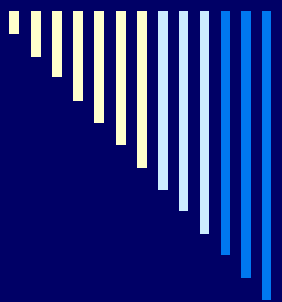
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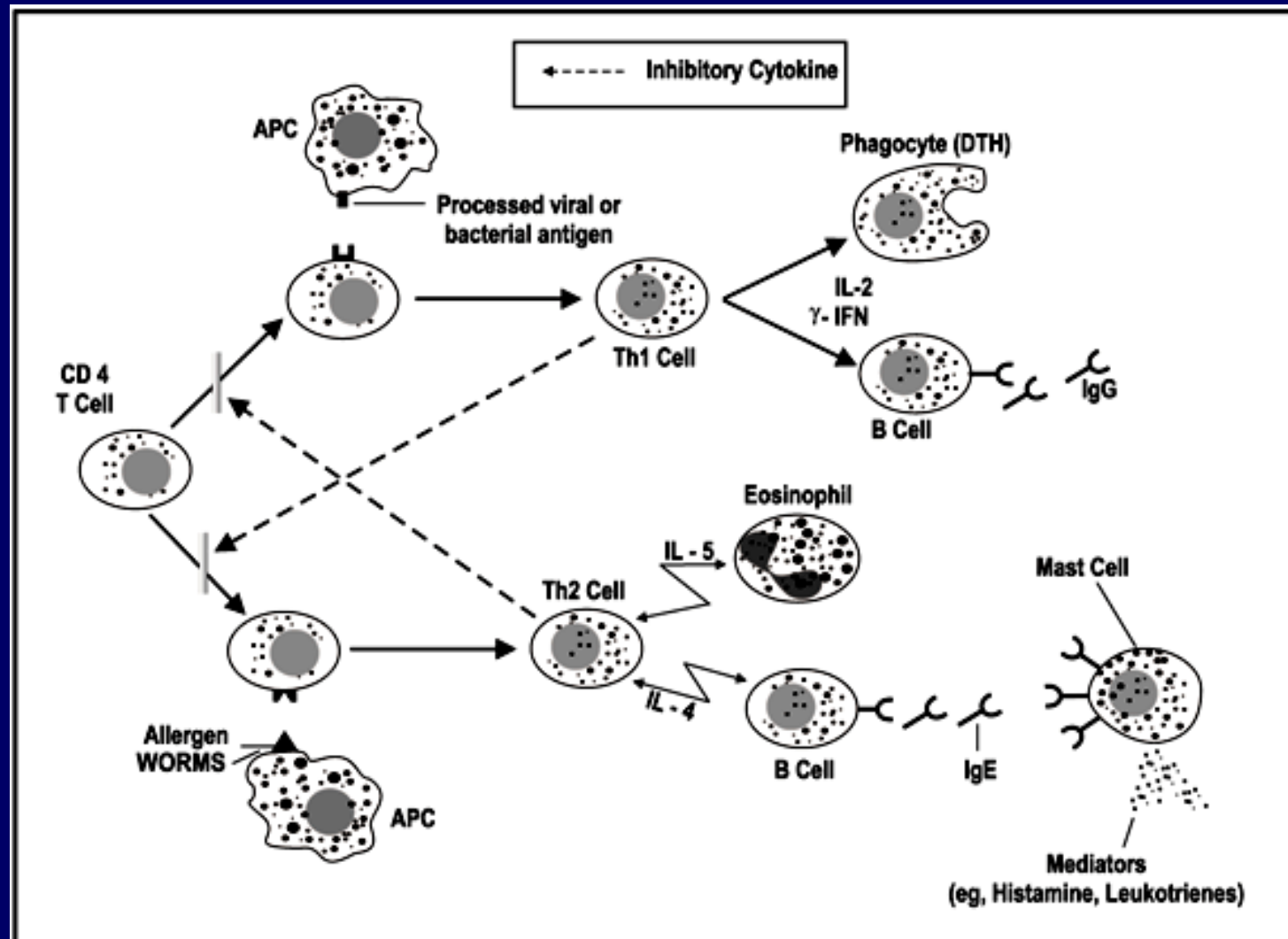
# Katayama fever

- Systemic hypersensitivity reaction against migrating schistosomula and egg-antigens.
- 2-8 weeks after exposure
- Esp. non- immune hosts
- Fever, urticarial rash, bronchospasm, enlarged liver and spleen, eosinophilia





Rev. Inst. Med.  
trop. S. Paulo  
2001



Mediated by Th2 dominated immune reaction with eosinophilia and hyper IgE



Praziquantel/ steroids

‘Take home’:

- Urticaria/ eosinophilia: helminth infections
- “Bilharzia free” signs are not to be trusted !

Questions?