



INSTITUTE
OF TROPICAL
MEDICINE
ANTWERP



Fever from Africa

Case Discussion Tropicare

15/10/2025



Febris, Belgian, 26-year-old, back from Senegal

- No medical history
- Travel to rural Senegal (Bambey)
 - 3- week stay
 - back to Belgium since 3 weeks
 - upon return, diarrhea and fever
 - self treated with quinolones (resolved)
- Current problem
 - fever and headache for 2 days; GP called: “flu”
 - admission in another hospital 3 days later
 - High WBC count: 20,100 WBC (82% N)
 - High C-RP level (190 mg/L)
 - Blood microscopy: neg
 - referred to UZA after 5 days because of neurological deterioration
 - At admission ITM: confusion, agitation, photophobia and neck stiffness



Febris, Belgian, 26-year-old, back from Senegal

- No medical history
- Travel to rural Senegal (Bambey)
- Current problem
 - fever and headache for 2 days; admission 3 days later
 - Referral to UZA for neurological deterioration 5 days later
- Investigations
 - MRI brain: normal
 - CSF examination
 - 350 WBC (95% L)
 - Proteinorachy 125 mg/dl
 - Staining negative
- Empirical treatment
 - Aciclovir + ceftriaxone + ampicillin + doxycycline



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 - Acyclovir + ceftriaxone + ampicillin + doxycycline
- Evolution
 - Acute deterioration rash, hypotension, agitation
 - Further stabilized; full recovery; discharge after 10 days



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- Evolution
- **Diagnosis: all cultures and initial serological tests negative**



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Table. Test results for 26-year-old woman who returned to Belgium from Senegal with meningoencephalitis complicating relapsing fever*

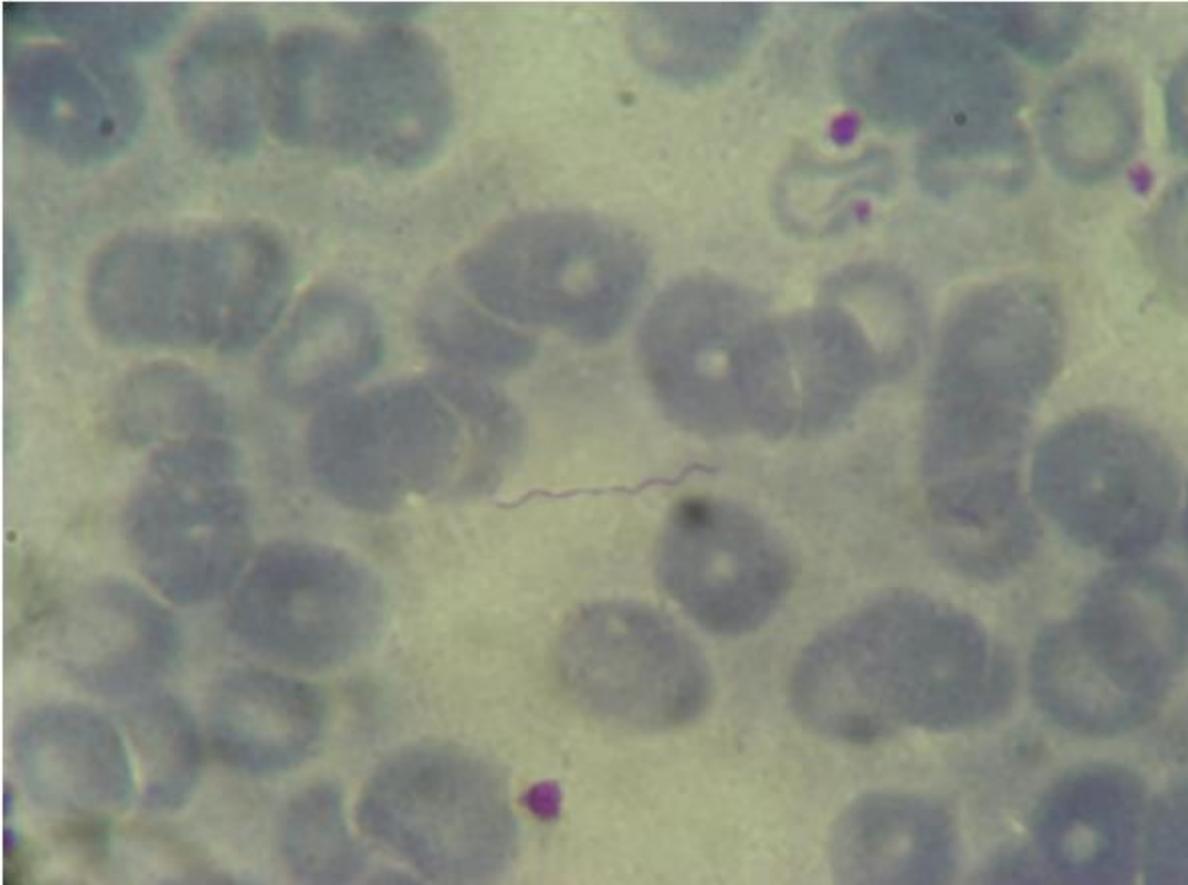
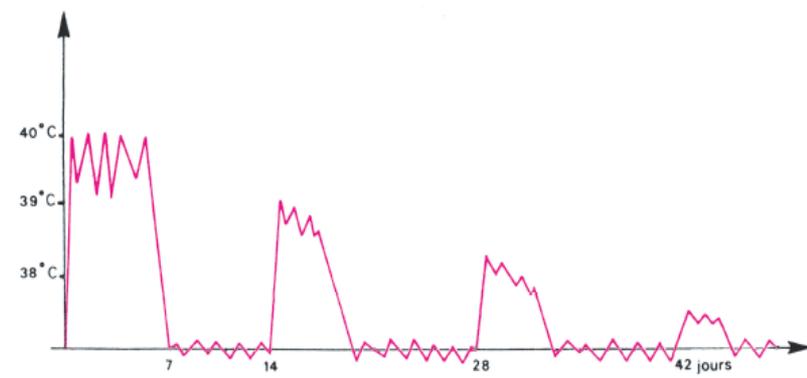
Characteristic	Date and test result	
	2010 Dec 21	2011 Jan 25
<i>Borrelia</i> DNA in serum	+ for 16S rRNA and ITS4 genes	–
<i>Borrelia</i> DNA in CSF	+ (100% similarity to <i>B. crocidurae</i> <i>flaB</i> gene; GenBank accession no. GU357619)	–
<i>B. crocidurae</i> IgM titer	25	0
<i>B. crocidurae</i> IgG titer	400	400
<i>B. dutonii</i> IgM titer	0	0
<i>B. dutonii</i> IgG titer	200	200
<i>B. recurrentis</i>	–	–
<i>B. burgdorferi</i>	–	–

*+, positive; ITS, internal transcribed spacer; –, negative; CSF, cerebrospinal fluid; *fla*, flagellin.

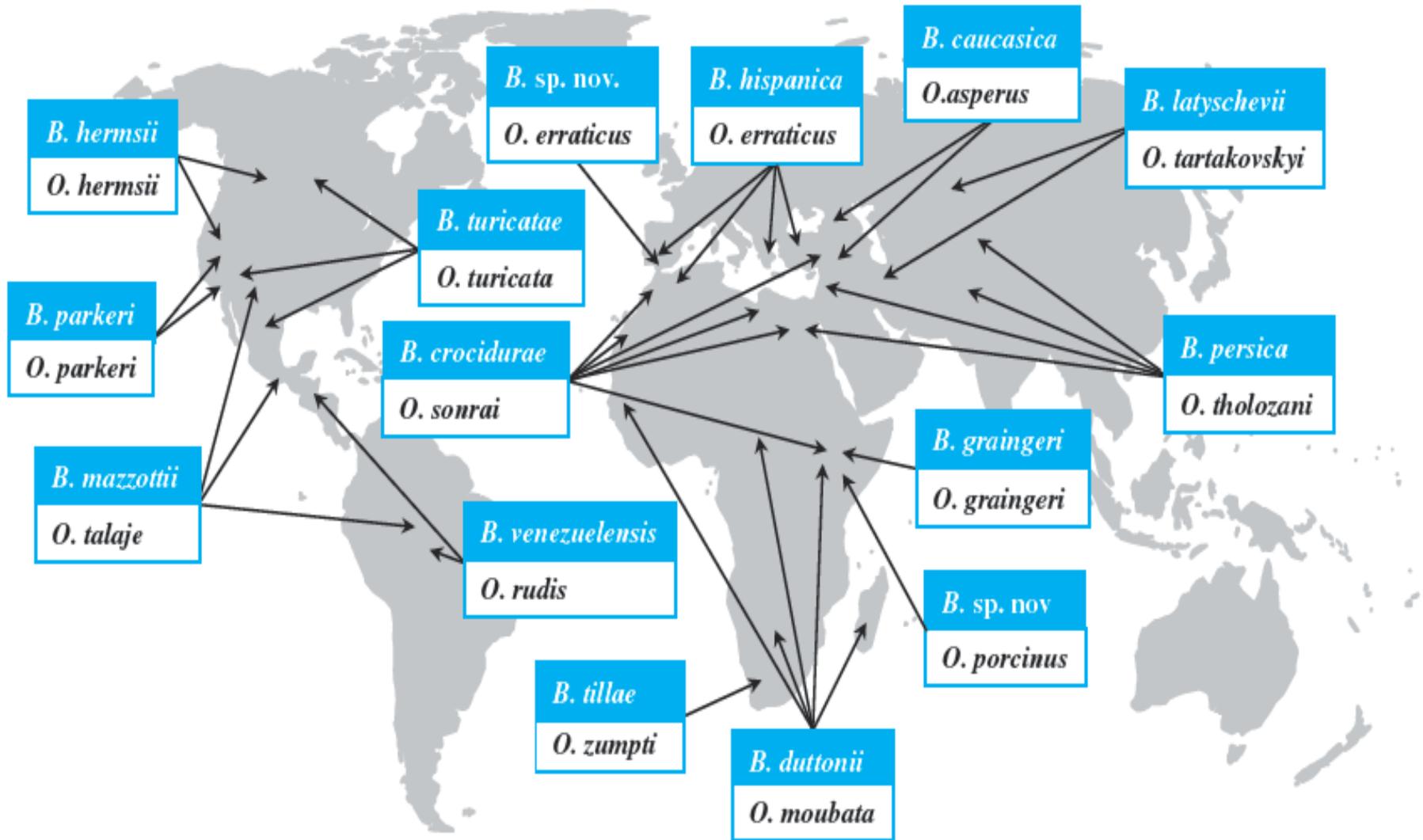
Meningoencephalitis Complicating Relapsing Fever in Traveler Returning from Senegal



Tick-borne relapsing fever



Tick-borne relapsing fever



Tick-borne relapsing fever, West Africa

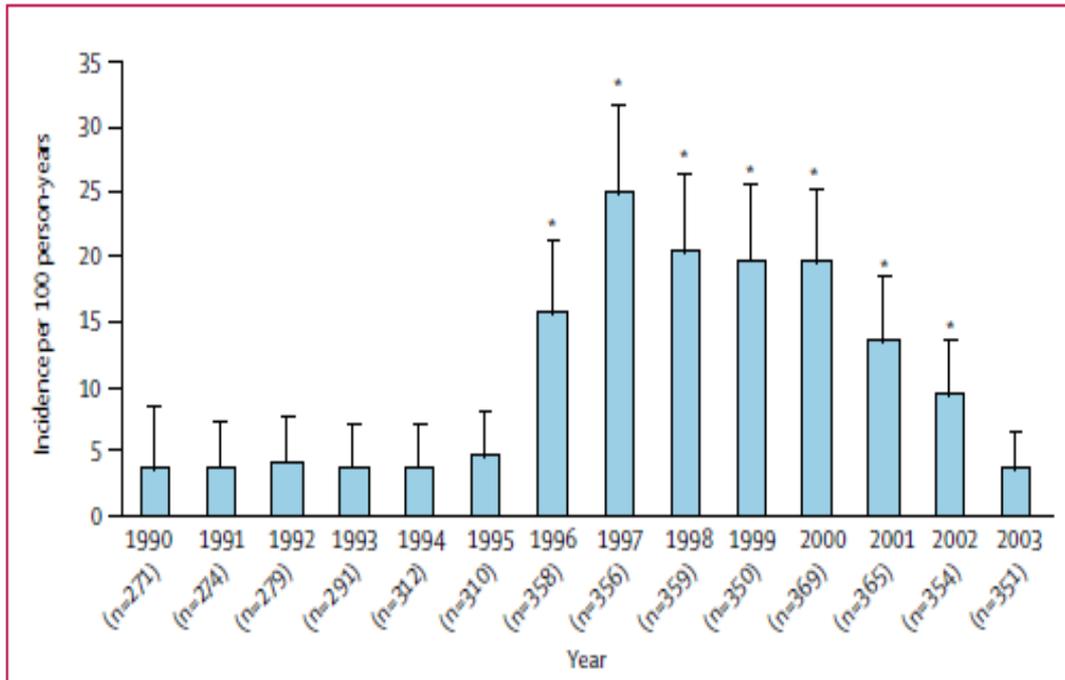


Figure 2: Incidence (95% CI) of TBRF, 1990–2003

*Significantly more cases of TBRF than in 1990 ($p < 0.05$ with GEE model). Number of persons under survey ranged from minimum 271 in 1990 to maximum 369 in 2000.

Due to *B. crocidurae*

Transmitted by *Ornithodoros sonrai*

4 to 25% of all fevers !



FIG. 4. *Ornithodoros sonrai*, the soft tick vector of *Borrelia crocidurae* in West Africa.

Tick-borne relapsing fever, West Africa

- 206 samples of febrile patients in rural Senegal
- 27 (13%) positive by PCR
- 4 (2%) positive by routine microscopy; 15 (7%) by expert microscopy
- Sensitivity microscopy vs PCR: 15% (routine) - 56% (expert)

Tick-borne relapsing fever in travelers

- Uncommon (< 1%) in travelers
- About 20 cases published so far (until 2020)
- Only 4 with neurological complications
- Diagnosis by microscopy (about 50% sensitive)
- Treatment with doxycycline (but Jarisch-Herxheimer reaction)





Bedankt! Merci!

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