

Epidemiology of travel-related morbidity in Europe

a EuroTravNet/GeoSentinel
multi-centre study

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Objective

- To determine the epidemiology of travel-related diseases in a large set of ill returned European travellers over a significant time period and to compare this to the epidemiology of disease in travellers from other developed countries outside Europe.

Data source

- March 1997-Nov 2007
- Ill travellers returned from a developing country
- European GeoSentinel clinics (EuroTravNet core sites)
- Comparison group: non-European GeoSentinel sites (USA, Canada, Australia and New Zealand)



Classic traveller

A European country-born person, living in Europe

Immigrant traveller

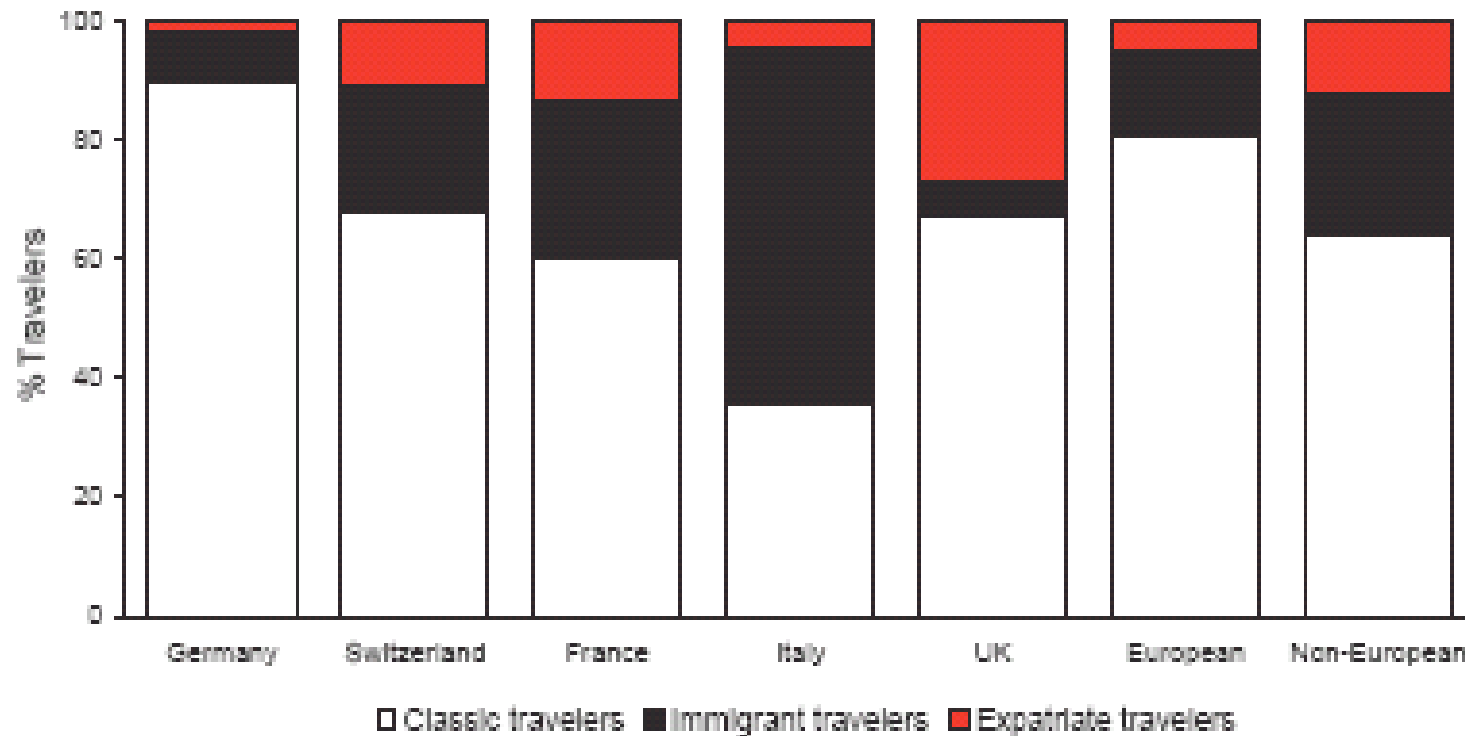
A developing country-born person, living in Europe

Patients whose purpose of travel was the initial immigration travel from their birth country to Europe were excluded.

Expatriate traveller

A Europe-born person living in a developing country

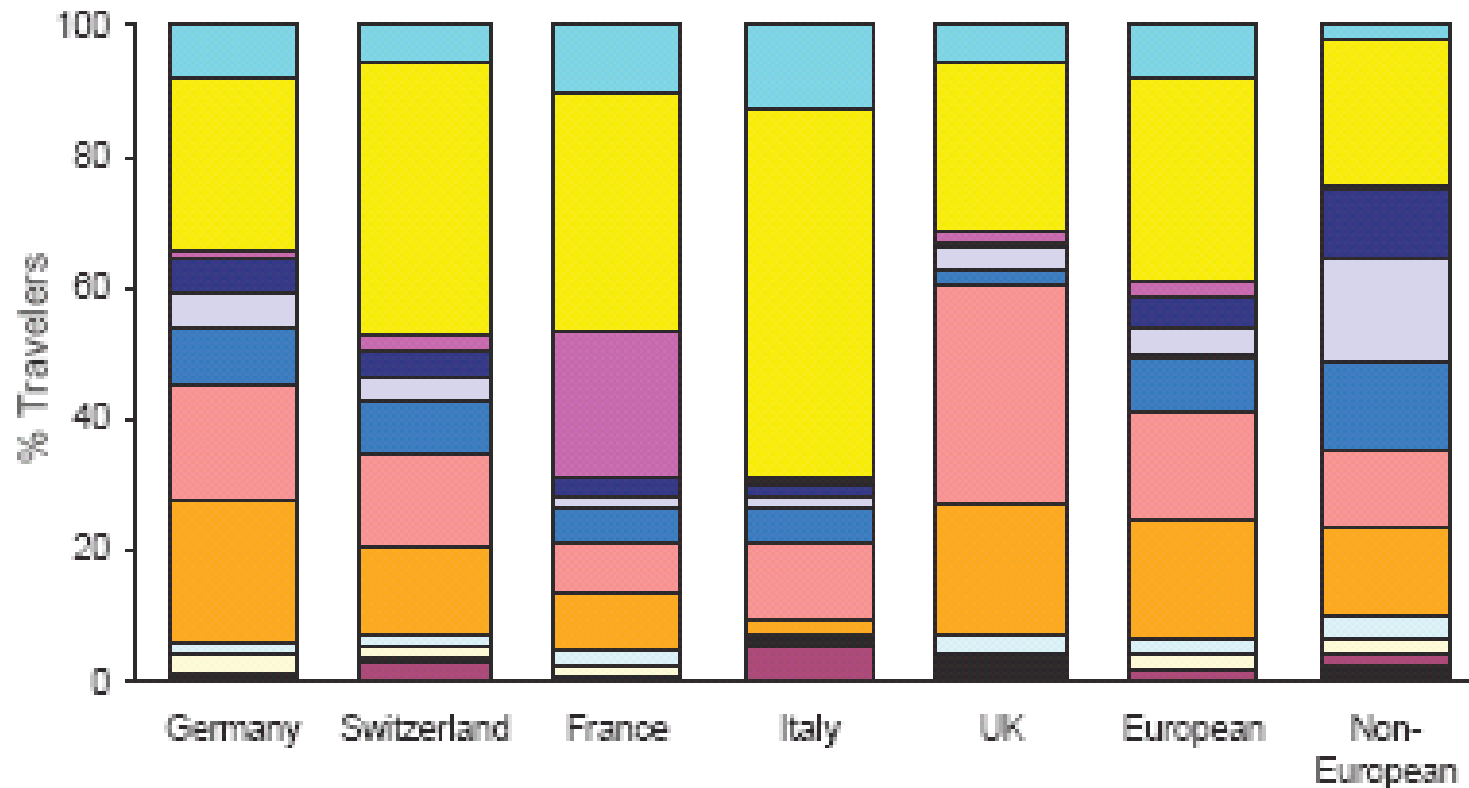
Europeans = 17,228 patients
non-European = 12,663 patients



Demographic and travel data

- Globally, **immigrant-travellers** sought markedly **less pre-travel advice** (22% vs 62%) and were **more likely to be inpatients** (24% vs 5%), compared to other groups.
- **Non-Europeans** had a **lower proportion of inpatient** (11% vs 37%) in the “**immigrant-travellers**” category, compared to Europeans.
- **Non-European expatriates** were **younger** (23 y vs 37 y), had a **longer duration of travel** (304 d vs 164 d) and **sought pre-travel advice more often** (78% vs 58%), compared to Europeans.

Regions visited



Proportionate morbidity (%)

cases of a specific diagnosis

all cases of ill returned travellers

10 ill returned travellers

4 Gastro-intestinal diseases

2 Febrile systemic illnesses

2 Dermatologic

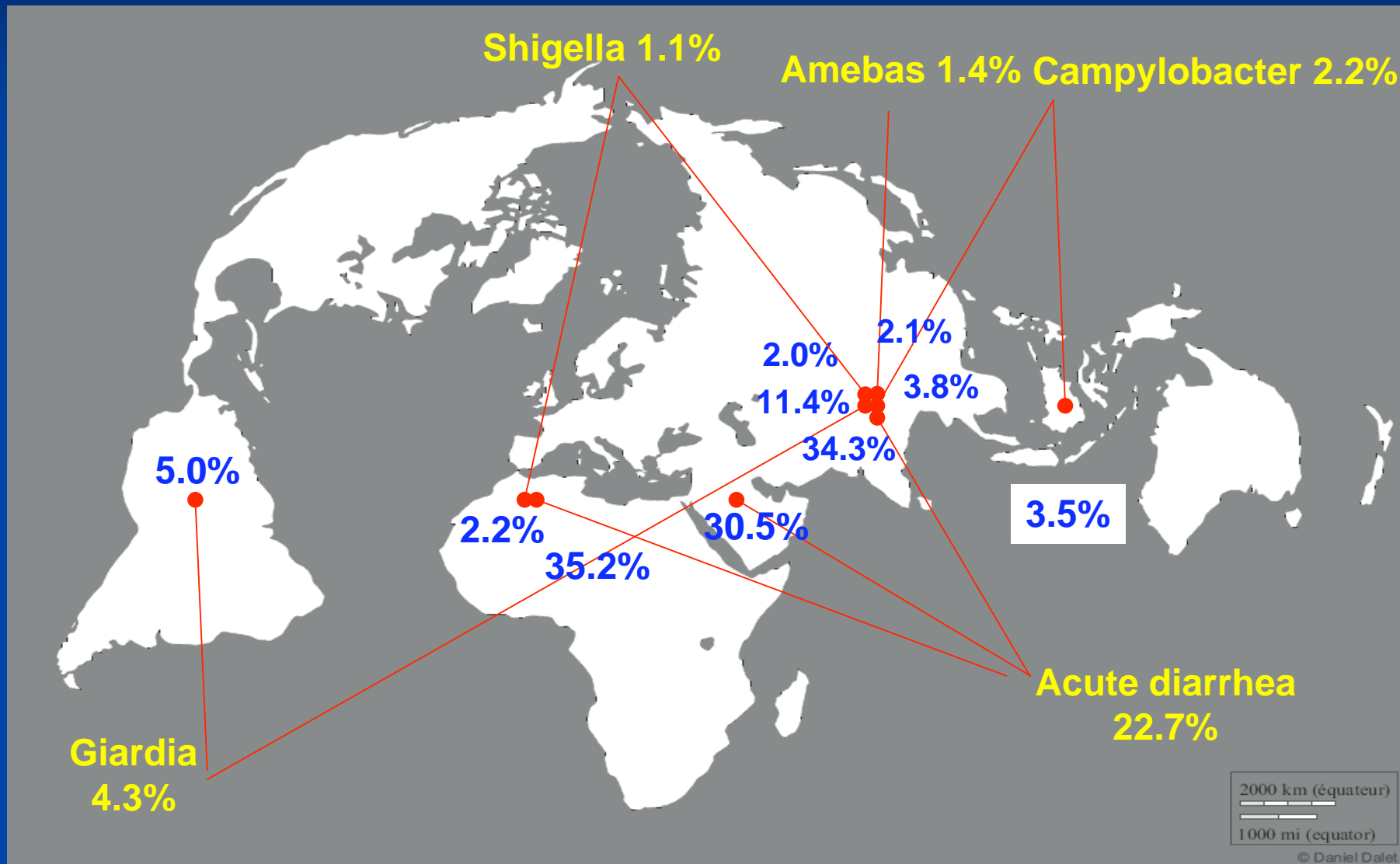
1 Respiratory diseases

Reason for travelling

	Acute Diarrhea 22.7%	<i>P. falciparum</i> malaria 5.3%	Dermatologic 15.9%	GU STD 3.0%
Tourist	26.0	1.5	18.3	2.8
Immigrant VFR	10.5	24.8	11.1	4.3
Missionary expatriate	20.3	5.0	13.3	3.5

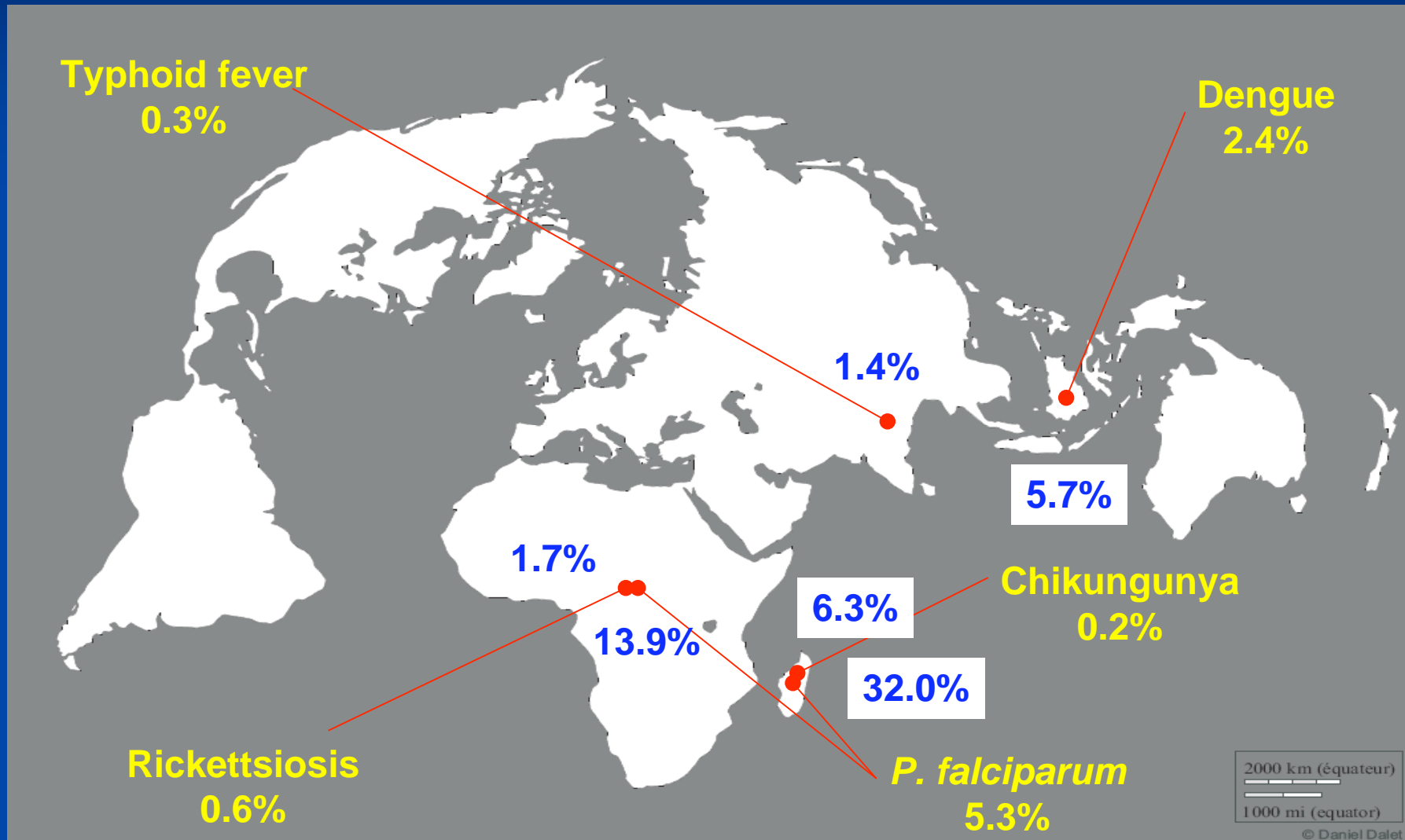
Place of exposure

Gastro-intestinal diseases

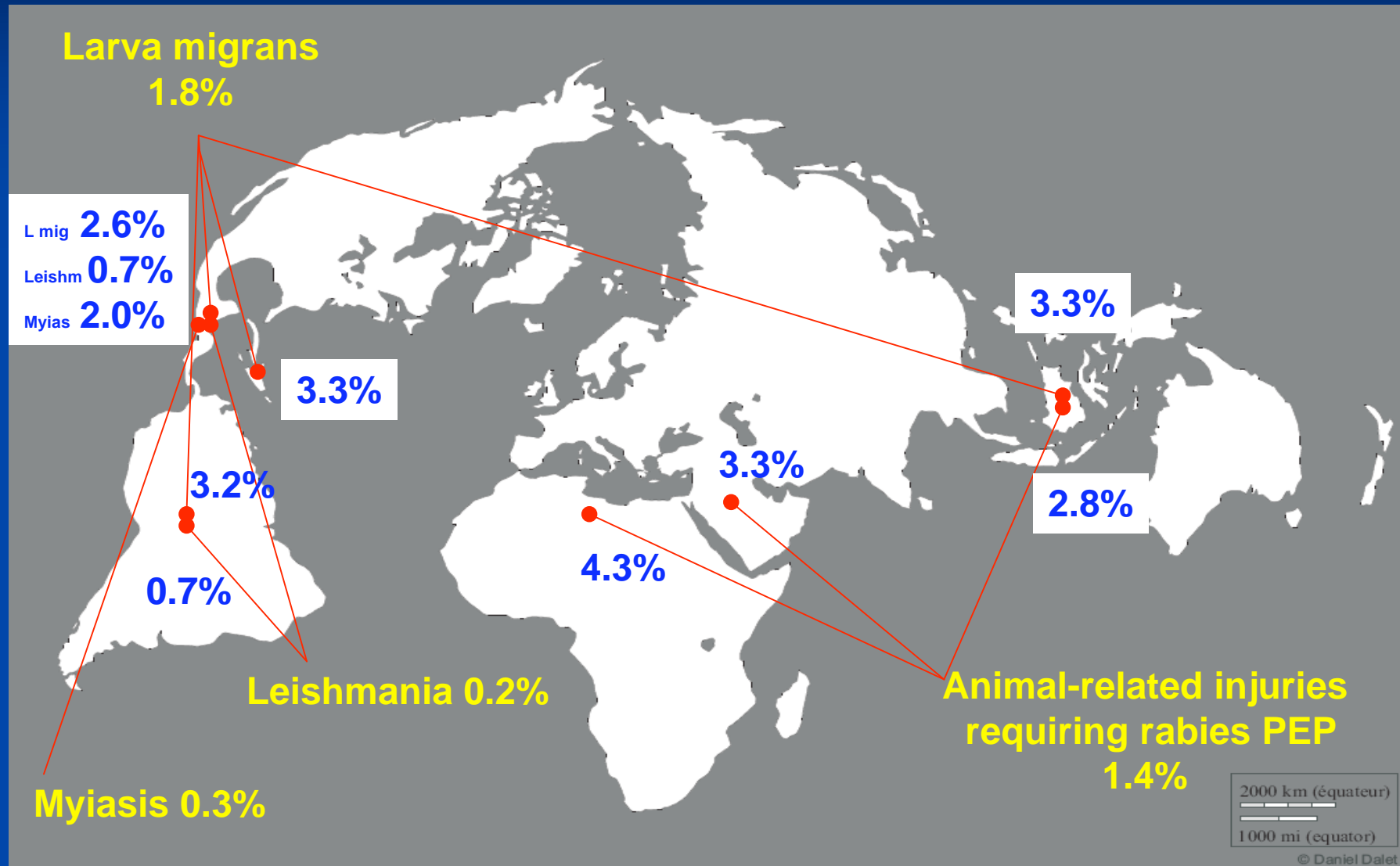


Place of exposure

Febrile systemic illnesses

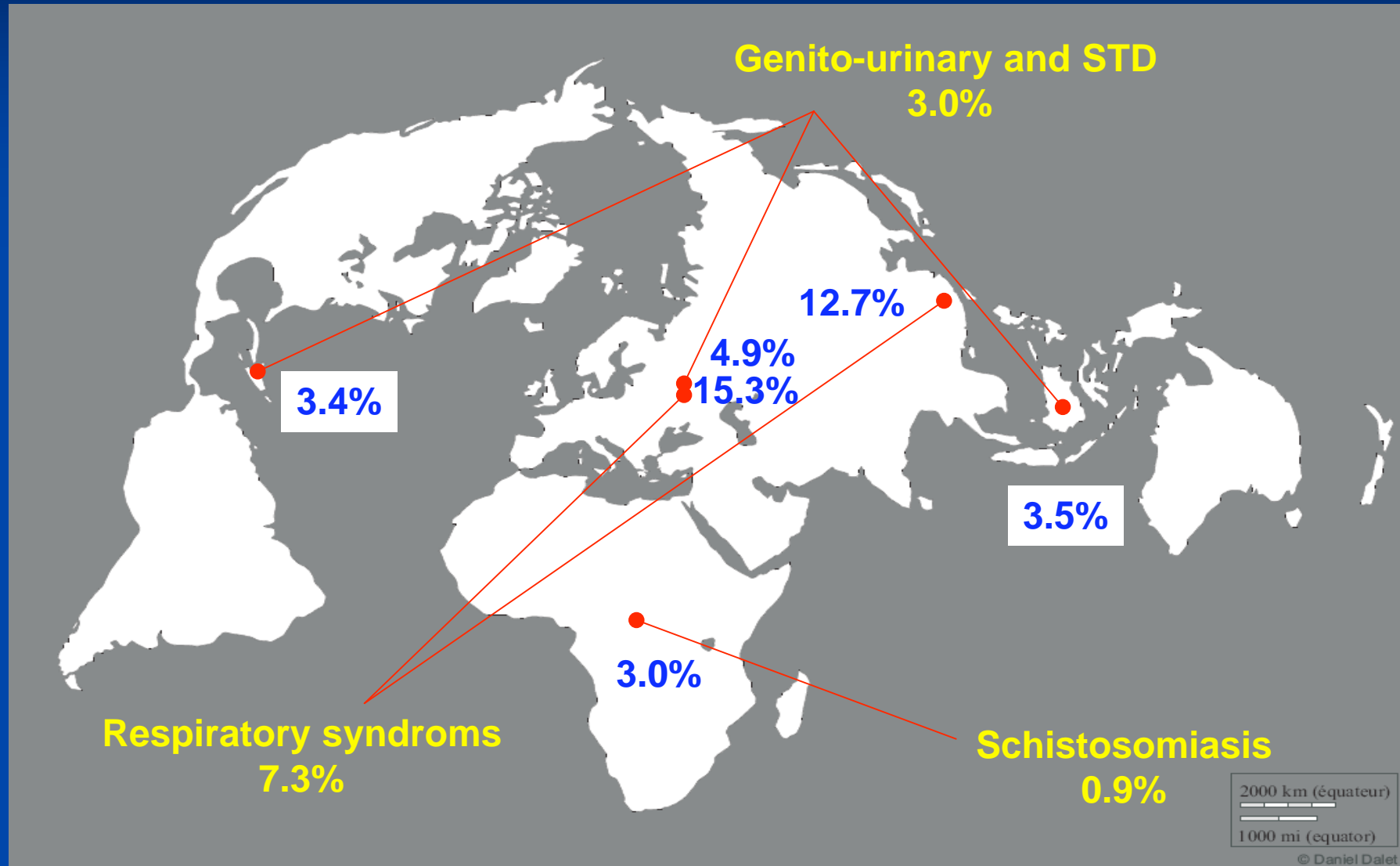


Place of exposure Dermatologic

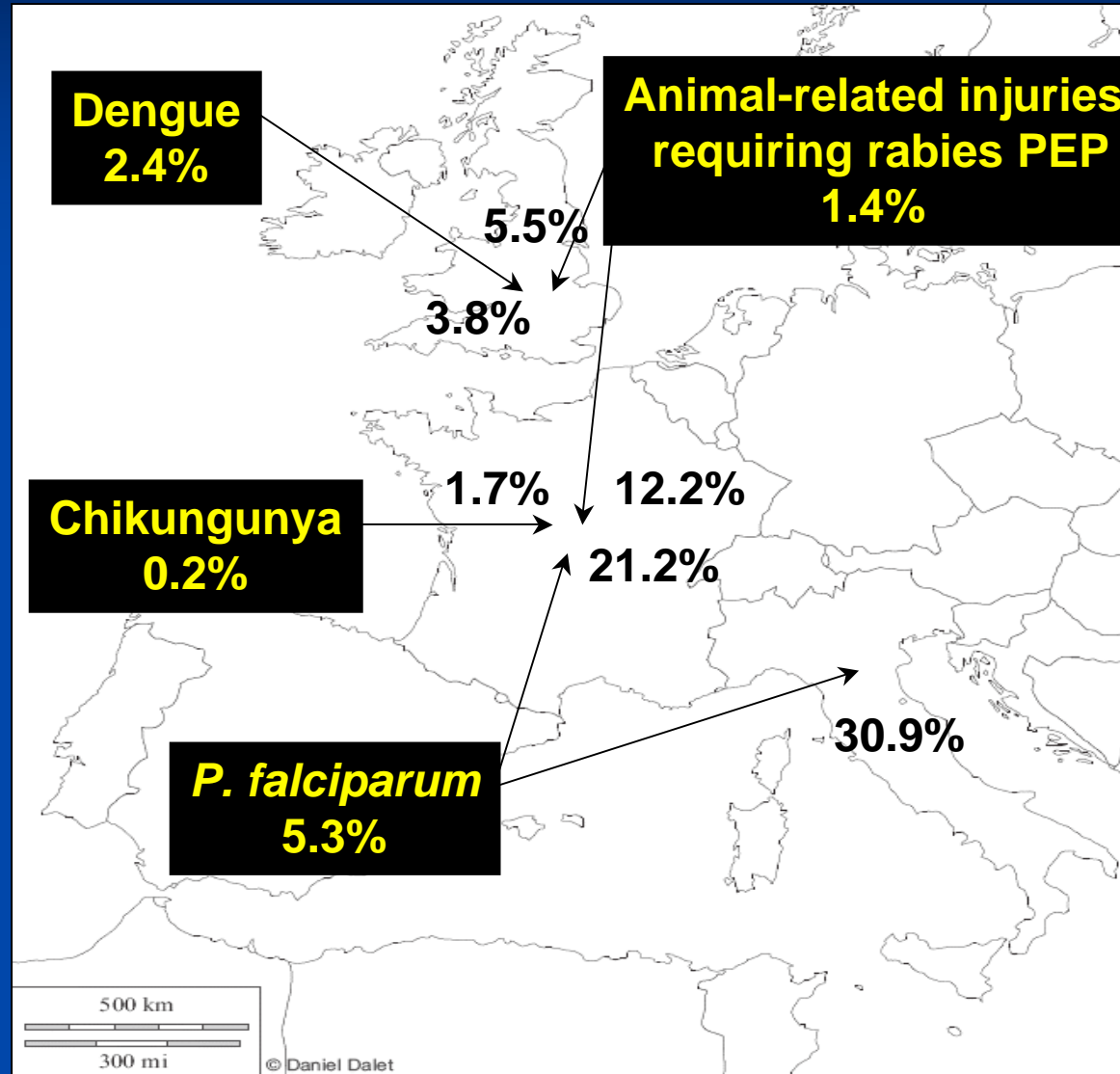


Place of exposure

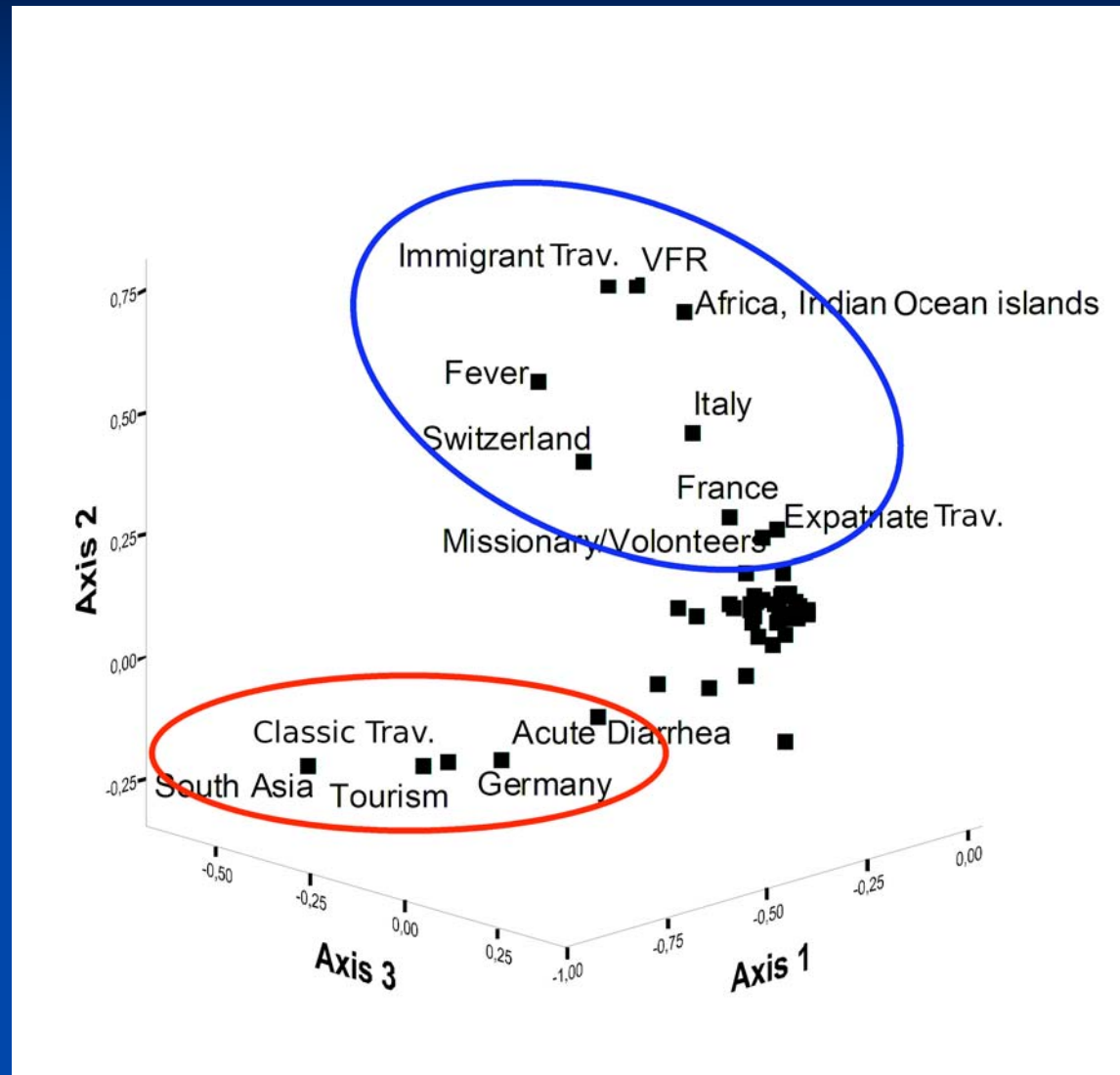
Other diseases



Country of residence



Multiple Correspondence Analysis



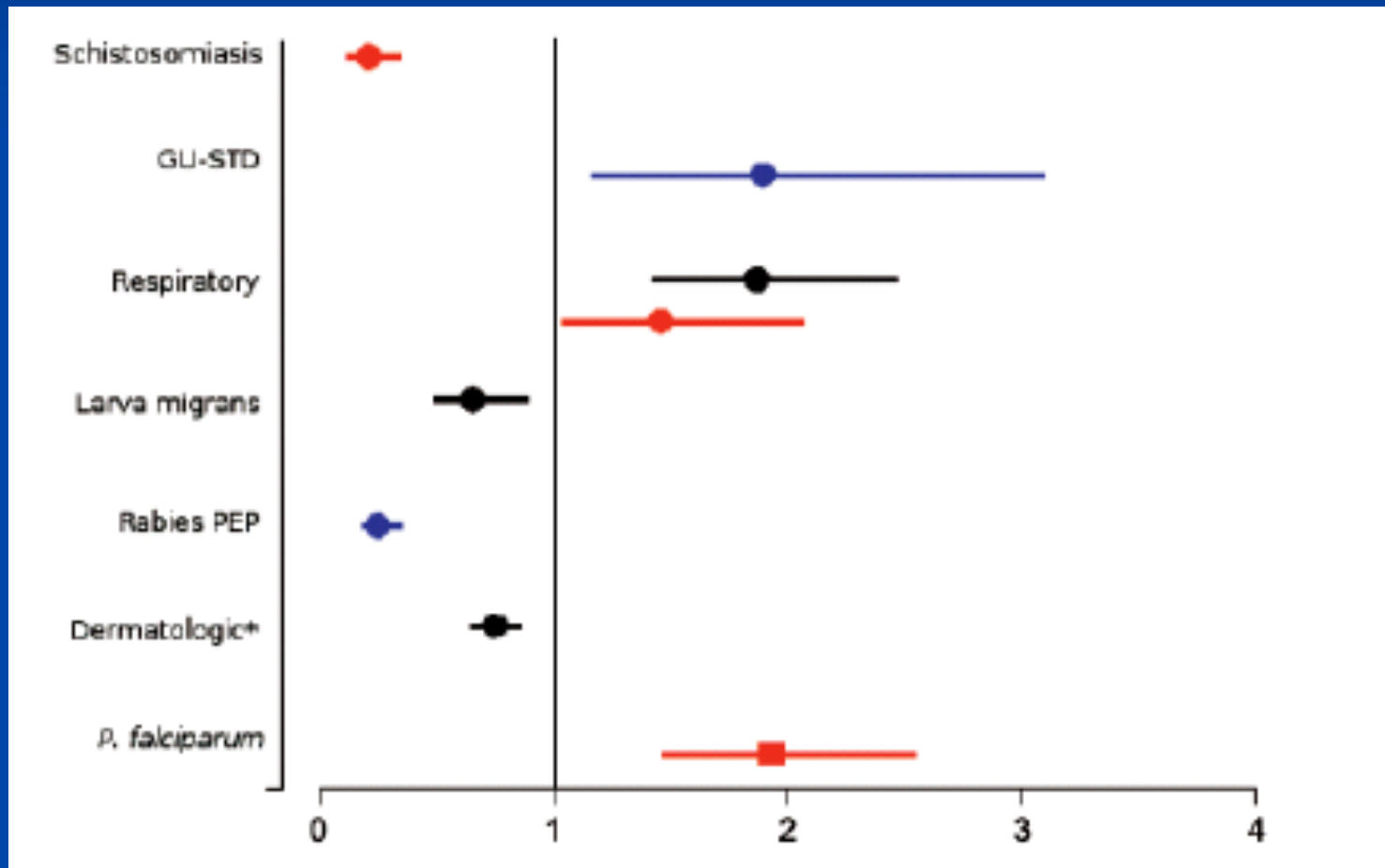
Correspondence Analysis for Presence-Absence

Europeans versus non-Europeans

ORs adjusted for travel duration

Africa/IOI
Latin America
South Asia

○ Tourist
■ Imm VFR



Risk groups : targets for prevention

- Acute diarrhea :

all categories of European travellers to **South Central Asia, North Africa and Middle East**, but particularly classic tourist-travellers

- *P. falciparum* malaria :

immigrant-travellers from Italy and France who **visit friends and relatives in sub-Saharan Africa and the Indian Ocean Islands.**

- Dengue :

travellers to **South East Asia**

- Thyphoid fever :

travellers to **South Central Asia**

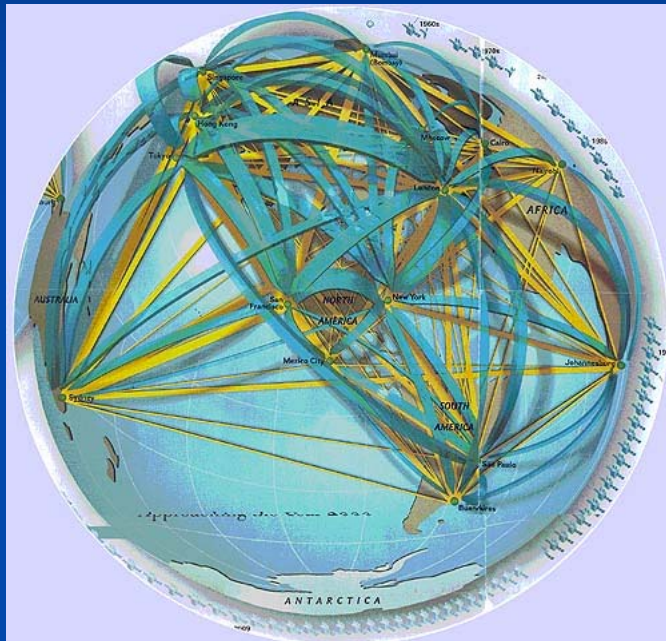
Risk groups : targets for prevention

- Rickettsiosis :
travellers to **sub-Saharan Africa**
- Dermatological conditions :
tourist travellers to the **Caribbean and Central and South America** (parasitic diseases) and to **North Africa, Middle East and South East Asia**
(Potentially rabid animal bites)
- STD :
missionary expatriate and immigrant VFR travellers
to **Eastern Europe, South East Asia and Caribbean.**

Conclusion

- Surveillance in European travellers encompassing a wide range of sites in Europe and addressing all travel-related diseases is a critical issue in order to detect **alarming events** and if required, to organise a **rapid response**, as well as to provide reliable data to promote **evidence-based travel medicine** in Europe.

THANK YOU



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