



# Summary of Cases & Epidemiology Aspects of Leishmaniasis in Thailand

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# Leishmaniasis

- Vector-borne disease
- *Leishmania* spp.
- Phlebotomine Sandflies
- Reservoirs: vertebrate animals
- 5 most important diseases worldwide as defined by the WHO





# Objective

- To describe the situation of visceral leishmaniasis in Thailand



# Geographic distribution

Major epidemic of VL ; Bangladesh, Brazil, India, Nepal, and Sudan





# Co-infection with HIV

- Emerging as an important opportunistic infection
- Reported from 31 countries
- Most of the cases from southern Europe
- 25-70% of adult patients with VL are co-infected with HIV
- 1.5-9% of patients with AIDS develop leishmaniasis



# Causative *Leishmania* species

## Cutaneous Leishmaniasis

*L. tropica*  
*L. major*  
*L. aethiopica*  
*L. donovani*\*  
*L. Infantum*\*  
*L. mexicana*

### complex;

- L. mexicana*,
- L. amazonensis*
- L. venezuelensis*

### *Viannia* subgenus;

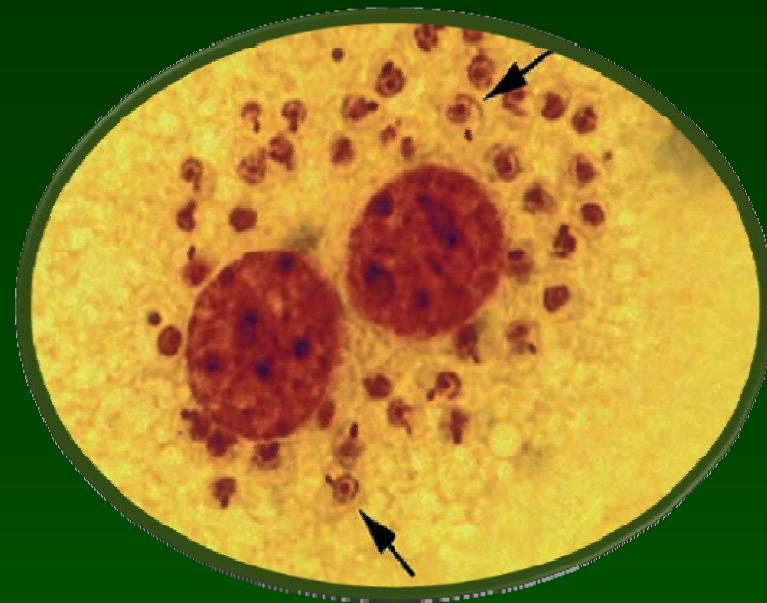
- L. [V] brazillensis*.
- L. [V] panamensis*,
- L. [V] guyanensis*,
- L. [V] peruviana*

## Mucocutaneous Leishmaniasis

*L. [V] brazillensis*  
*L. amazonensis*

## Visceral Leishmaniasis

*L. donovani* complex;  
•*L. donovani*\*  
•*L. infantum*\* in Mediteranean  
•*L. chagasi* (new world) in  
America



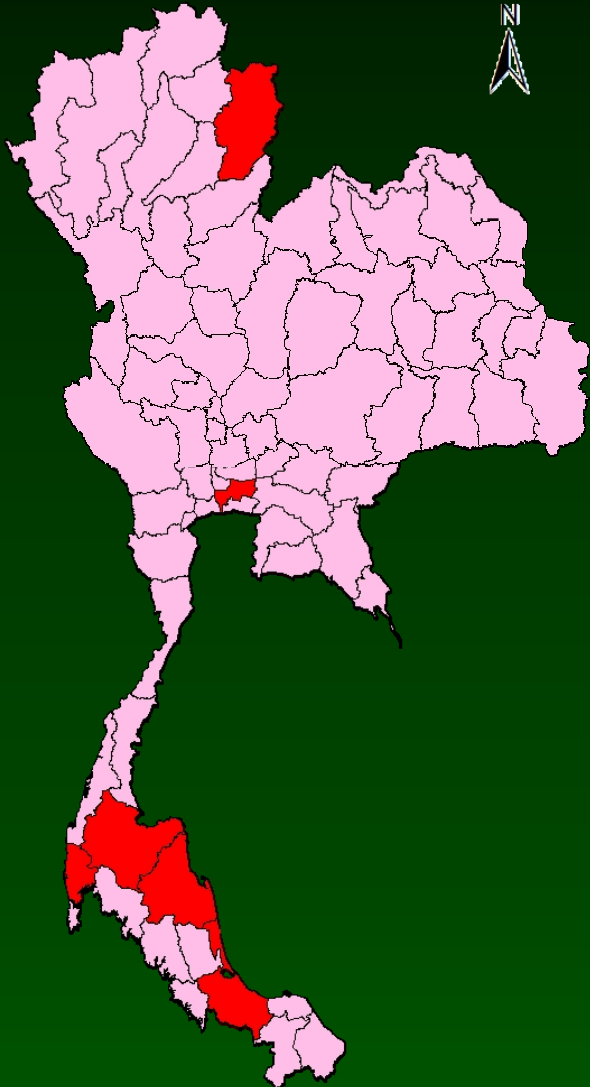


# Previous reported VL cases in Thailand, 1960-1986

- 1960; an imported Pakistanian case
- 1977; an imported Indian case
- 1984; an imported Bangladesh case
- 1985-1986; 5 Thai-worker cases, who came back from the Middle East



# Reported Autochthonous VL cases in Thailand, 1996-2007

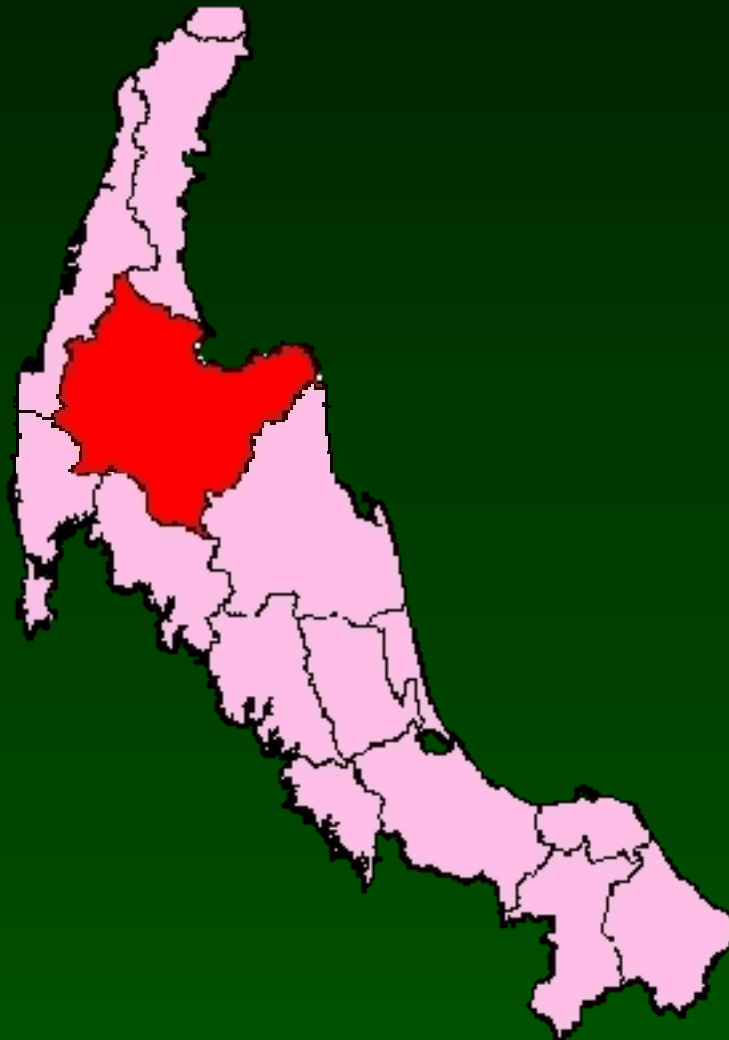


1. Suratthani, 1996
2. Nan, 2005
3. Phangnga, 2006
4. Nakorn Sri Thammarat, 2007
5. Songkhla, 2007
6. Bangkok, 2007





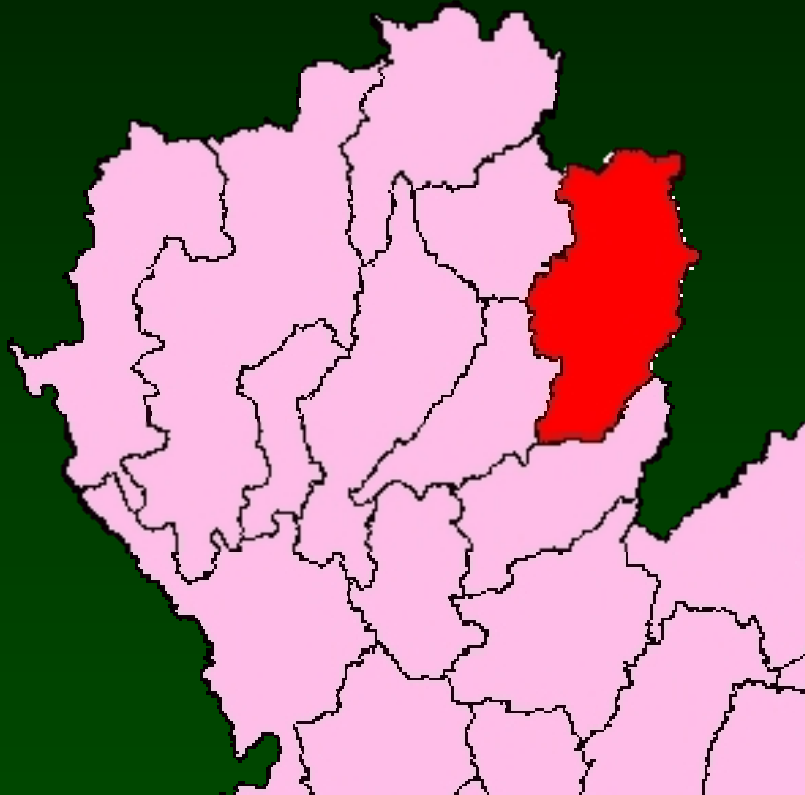
# Suratthani case, 1996



- A 3-year-old girl
- Onset; Nov 1995
- Dx; Feb 1996
- *Leishmania donovani* complex
- Animal; negative result of IFT
- Sandfly;
  - *P. stantoni*
  - *S. perturbans*



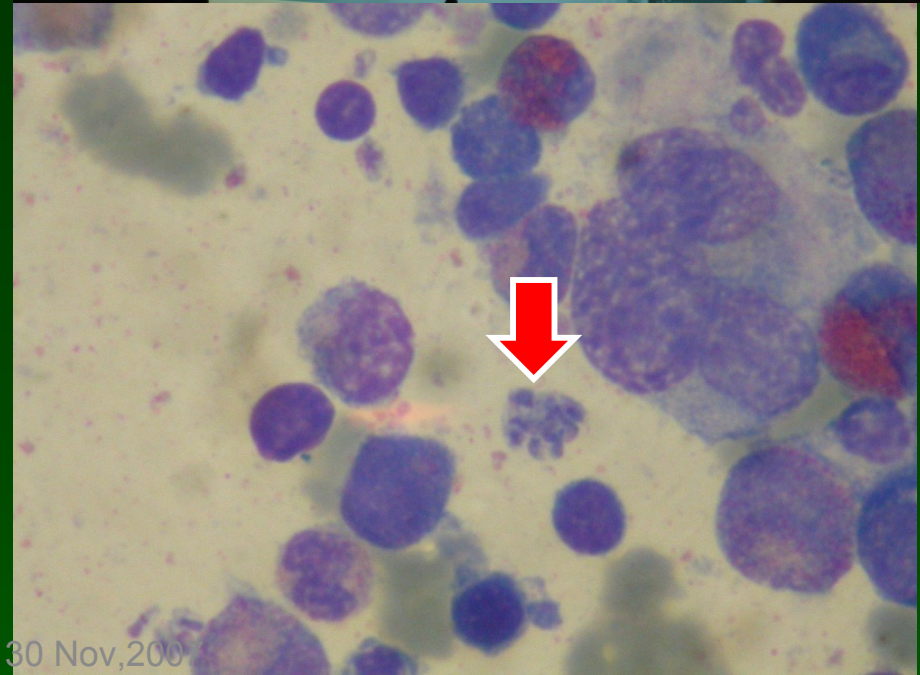
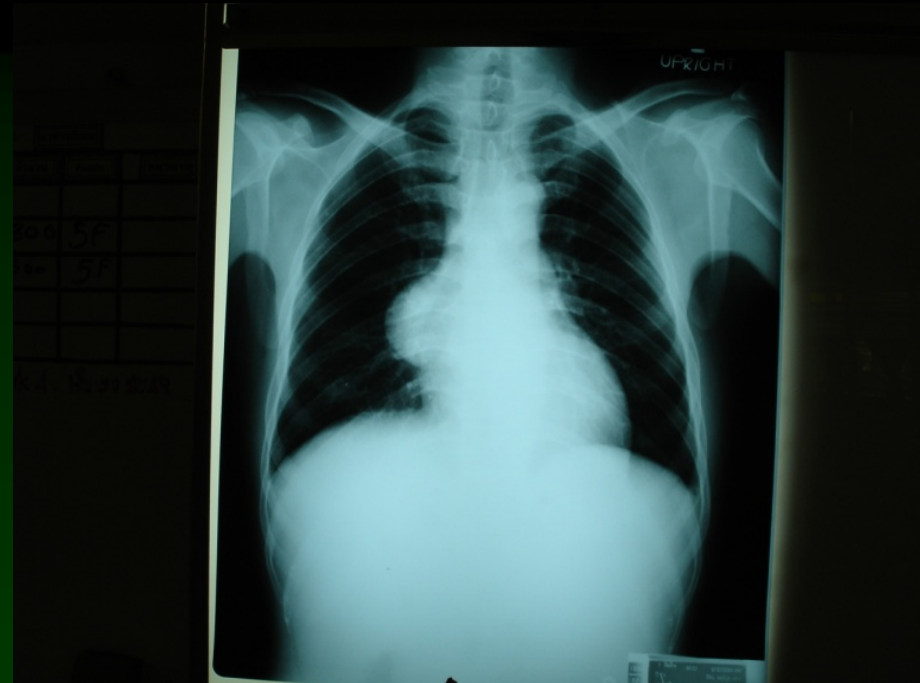
# Nan case, 2005



- A 40-year-old man, construction worker
- Onset; Nov 2002
- Dx; Jul 2005
- Drug abuse (opium, alcohol)
- *Leishmania donovani*
- Animal; 3 cows & 1 cat with positive DAT
- Sandfly;
  - *S. gemmea*
  - *S. barraudi*
  - *P. stantoni*

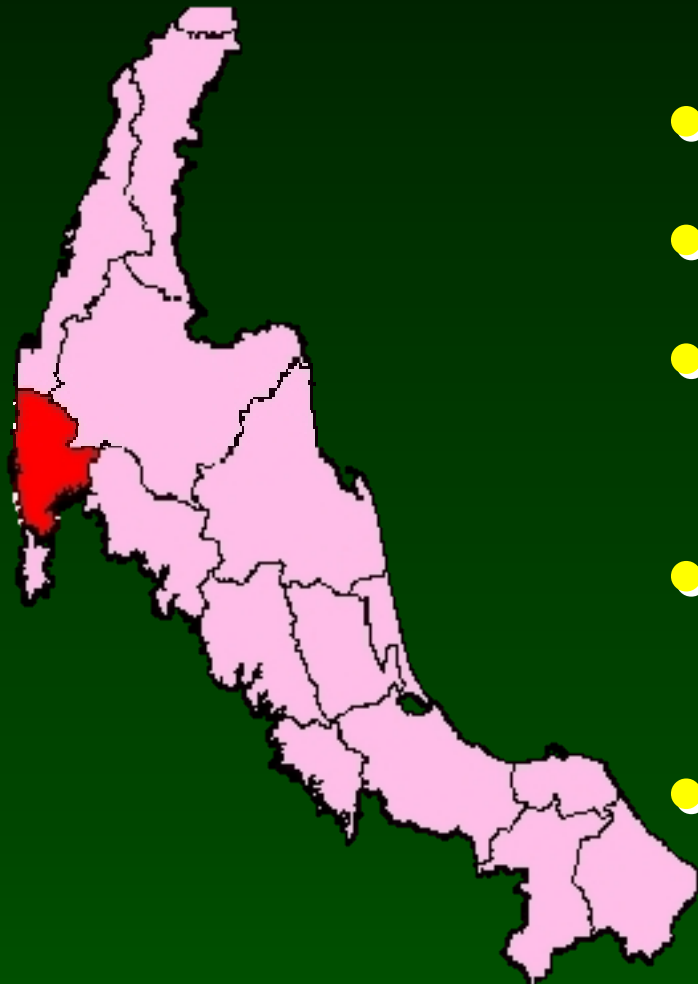


# 2<sup>nd</sup> case





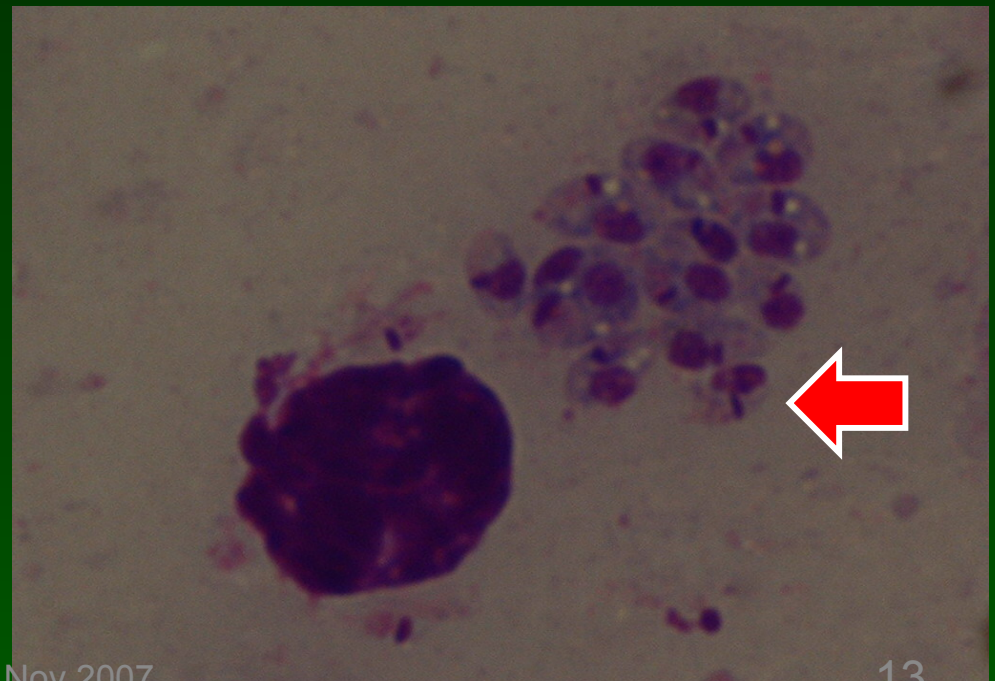
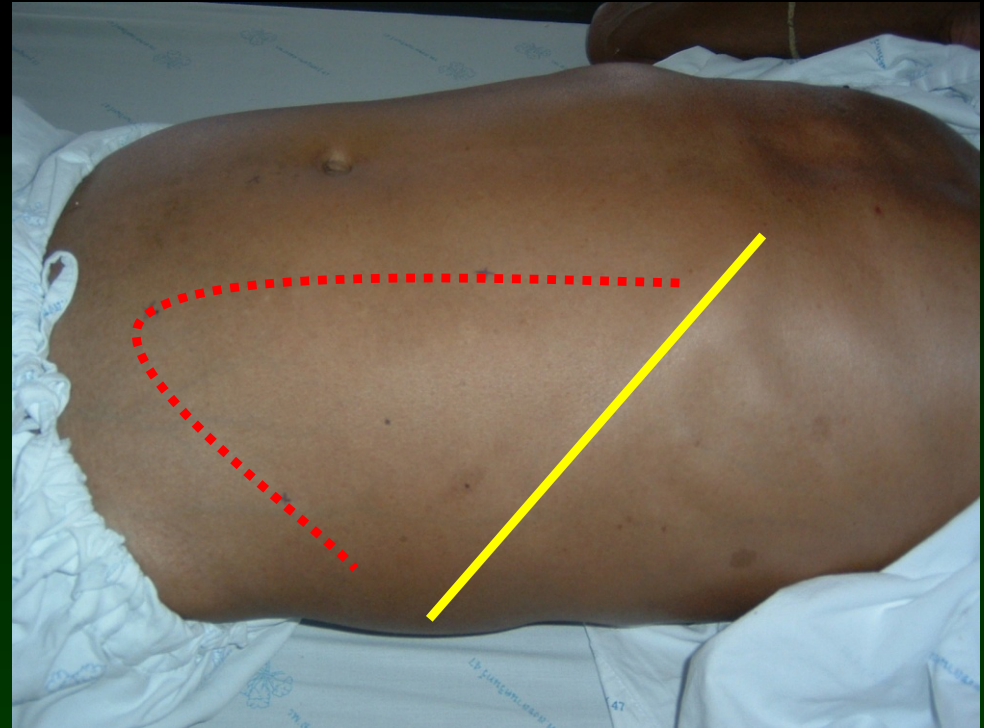
# Phangnga case, 2006



- A 54-year-old male, rubber plantation
- Onset; May 2003
- Dx; Feb 2006
- *Leishmania siamensis* (sp.nov.)
- Animal; 9 Cats with positive DAT
- Sandfly;
  - *S. gemmea*, *S. barraudi*
  - *S. indica* with blood contained (negative PCR)



# 3<sup>rd</sup> case





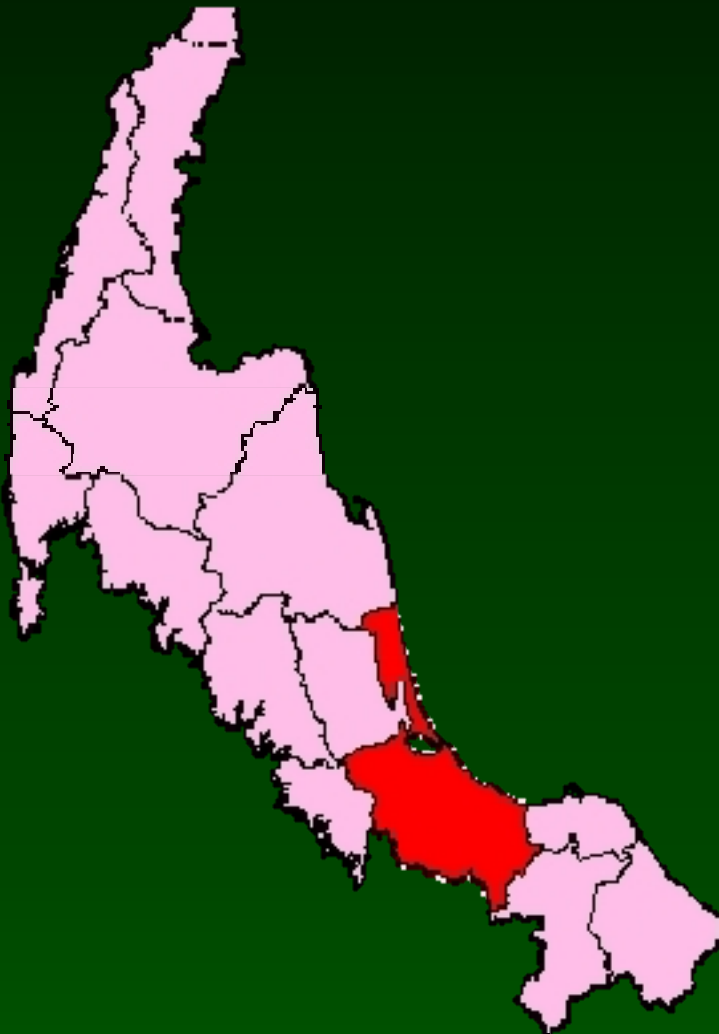
# Nakorn Sri Thammarat case, 2007



- A 44-year-old man, rubber plantation
- Onset; Jan 2007
- Dx; Jun 2007
- Type 2 DM & blindness
- *Leishmania donovani* complex
- Animal; 1 Cow & 1 cat with positive PCR
- Sandfly;
  - *P. argentipes*,
  - *S. gemmea*, *S. barraudi*,
  - *S. iyengari*, *S. perturbans*



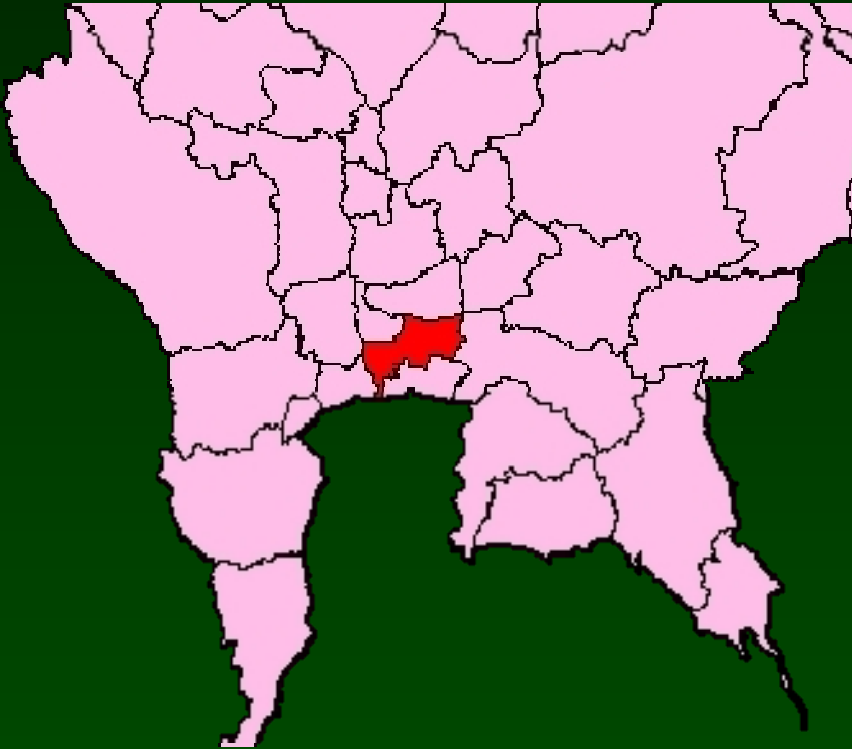
# Songkhla case, 2007



- A 81-year-old man,
- Onset; 2005
- Dx; Aug 2007
- **HIV/AIDS patient**
- **Visiting Malaysia for many times**
- *Leishmania donovani* complex
- No evidence of active case finding & sandfly trapping



# Bangkok case, 2007



- A 66-year-old man, Lumber truck driver
- Onset; Jan 2007
- Dx; Jun 2007
- Type 2 DM, HT
- *Leishmania infantum*
- Animal; negative result of DAT
- Sandfly; trapping wasn't successfully done due to raining





# Discussion & Conclusion

- 11 VL cases were reported in Thailand.
- The first reported *Leishmania* infection in Thailand was an imported case with *L. donovani* from Middle East Asia in 1985.
- 5 of 11 VL cases in Thailand were considered to be autochthonous.
- 1 case had co-infection with HIV.



## Discussion & Conclusion (2)

- High risk area is in southern Thailand.
- Potential newly identified species of *Leishmania* was found in one case.
- *Leishmania infantum* was reported for the first time in Thailand.



## **Discussion & Conclusion (3)**

- No new human cases were found in all case investigations.
- Domestic animals including cows and cats were considered as the major reservoirs in Thailand.
- Some species of Phlebotomine sandflies might act as the vector of leishmaniasis in Thailand.



# Recommendations

- Systematic research is needed to expand the knowledge of leishmaniasis in Thailand;
  - Retrospective review of BM slides in medical schools or regional hospitals.
  - Seroprevalance survey of *Leishmania* infection among population at risk.
  - Experimental inoculation of native sandflies to determine their potential vectors.



# Acknowledgement

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