

# Prevalence of *Opisthorchis viverrini* Infection in Cats and Dogs in Endemic Areas of Northeast Thailand

- Sirikachorn Tangkawattana, Surasit Aunpromma, Pittaya Papirome, Prapan Kanjampa, Prasarn Tangkawattana, Smarn Tesana, and Banchoob Sripa
- Khon Kaen University, Khon Kaen, THAILAND



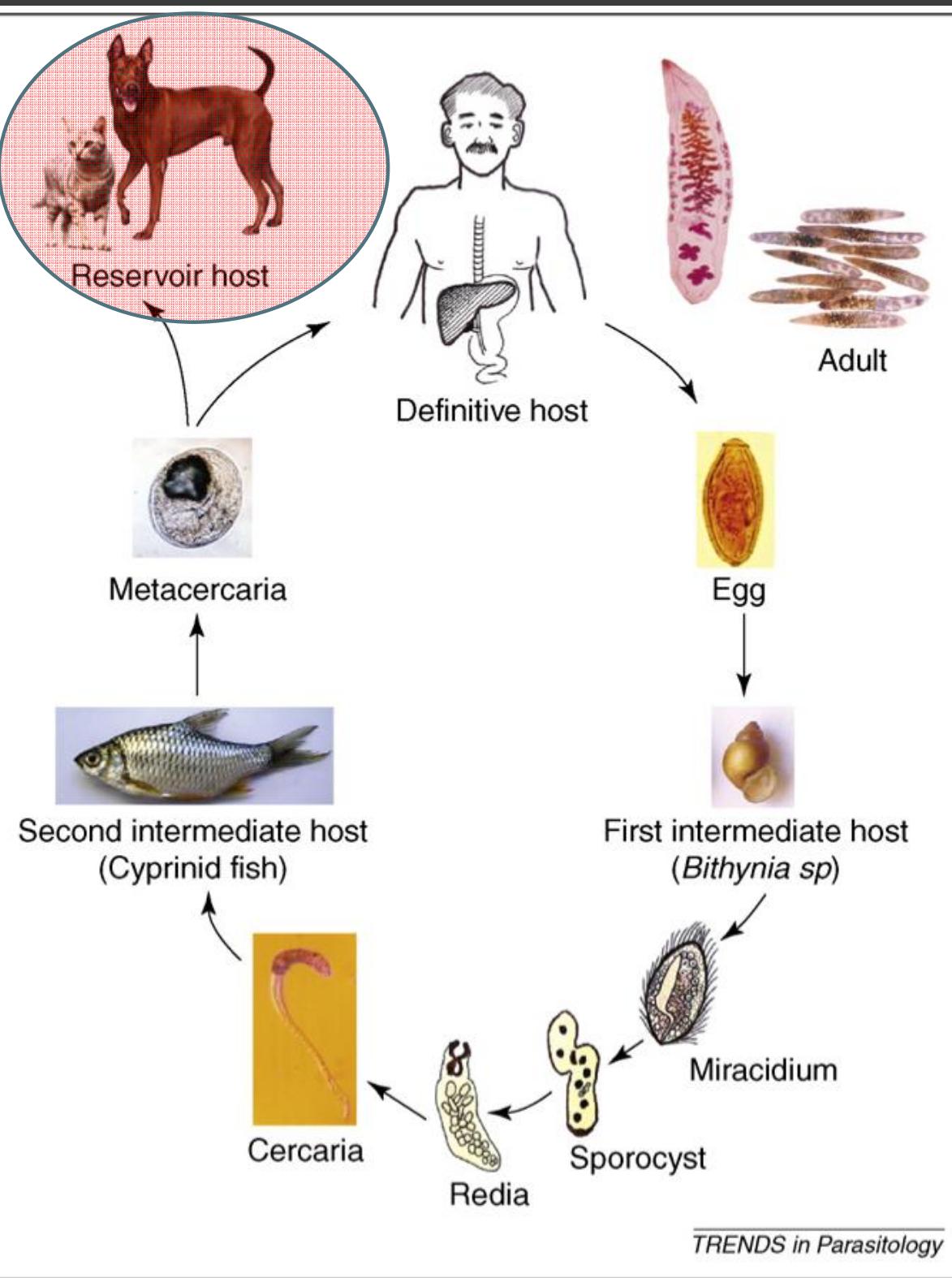
# *Background & Rationale*



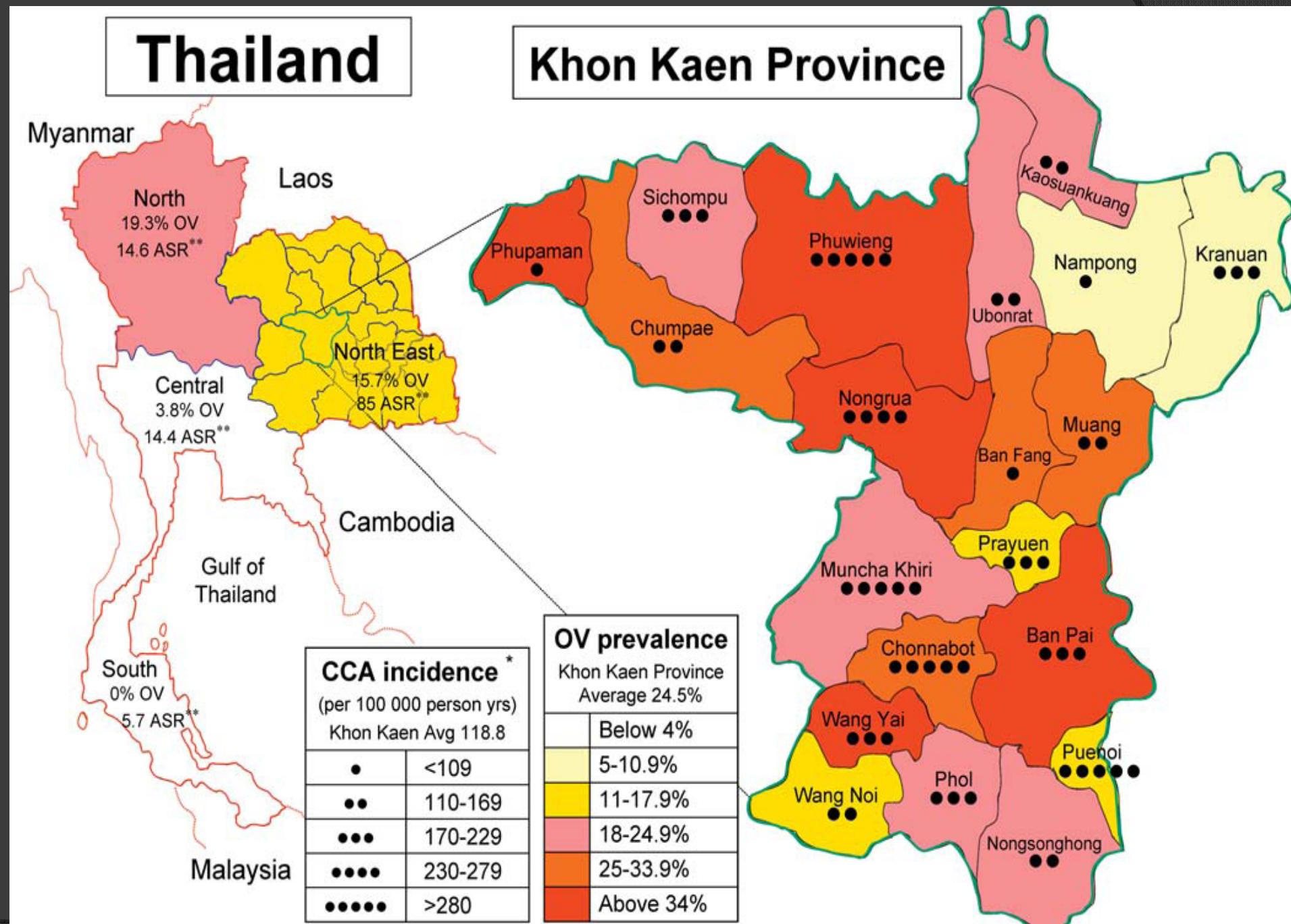
Dog---our best companion

# Cats, as well



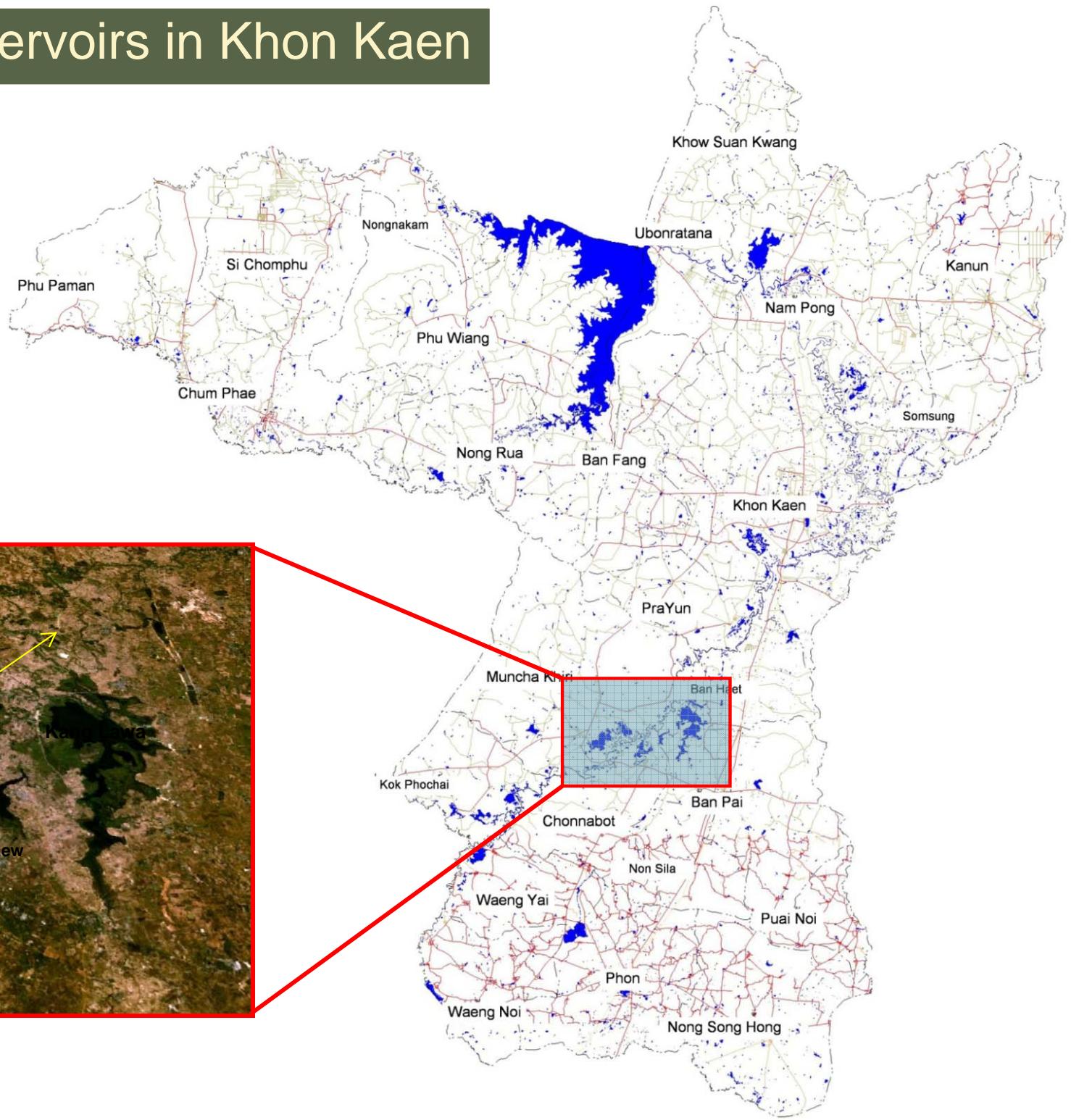


# Prevalence of human CCA and OV infection during 1990-2001



(Sripa et al., 2007)

# Major water reservoirs in Khon Kaen

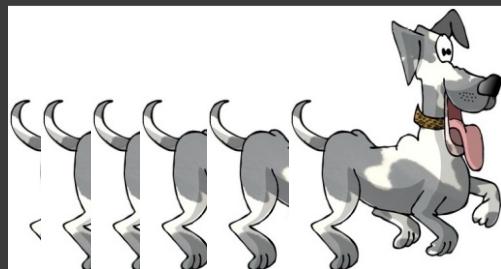


# Objectives

- Determine the prevalence of *O.viverrini* in reservoir hosts (dogs and cats) in the endemic area of human opisthorchiasis



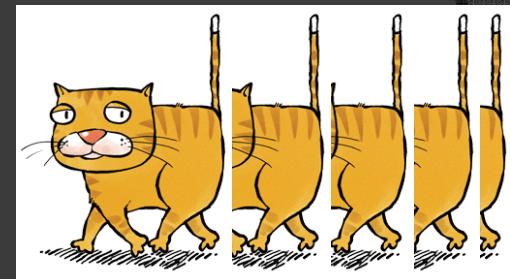
# *Materials & Methods*



742 dogs



29 villages



199 cats

## Physical examination



CBC, blood chemistry



Fecal examination  
(sedimentation)

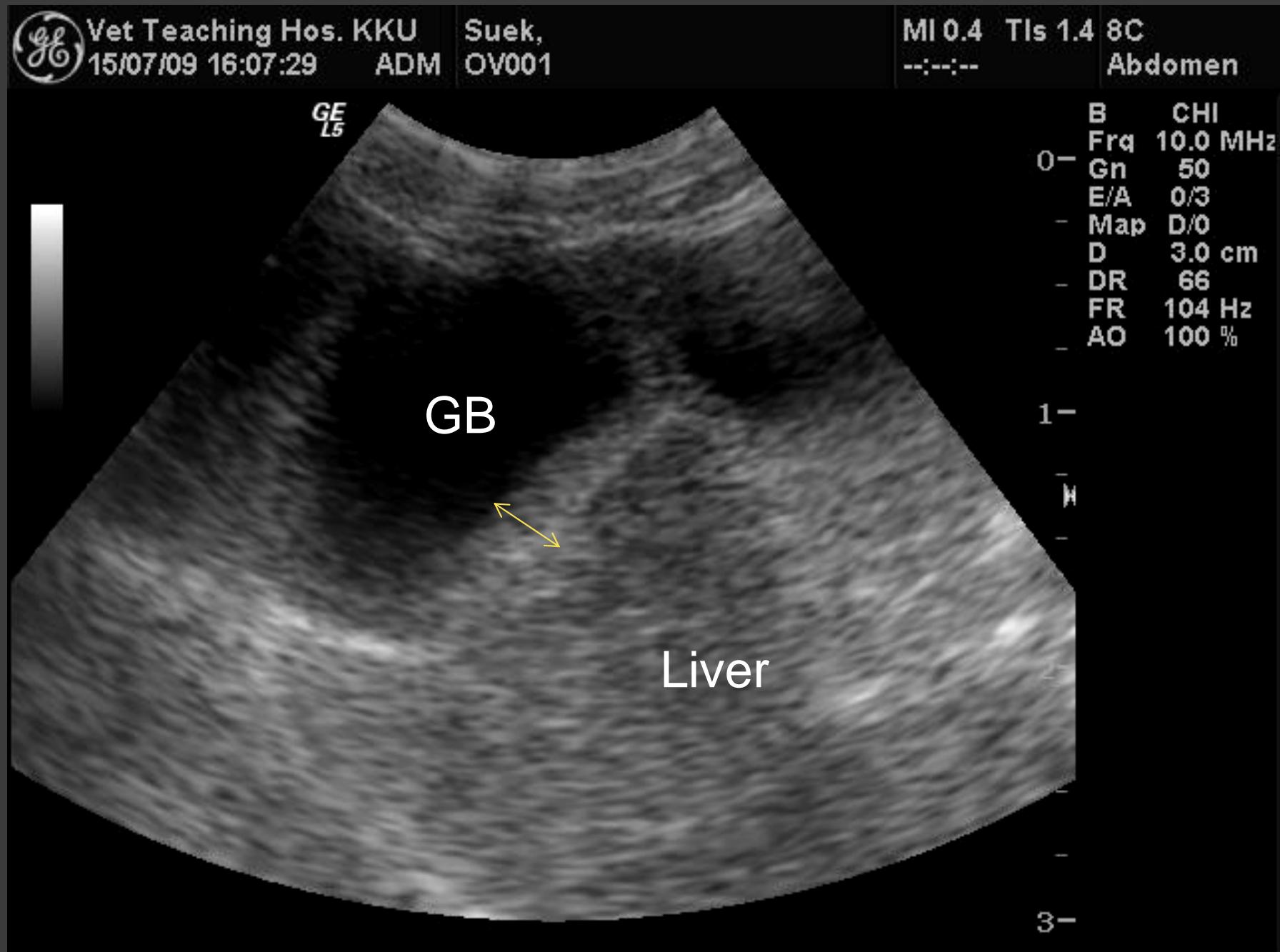
# Results

Which one is infected?

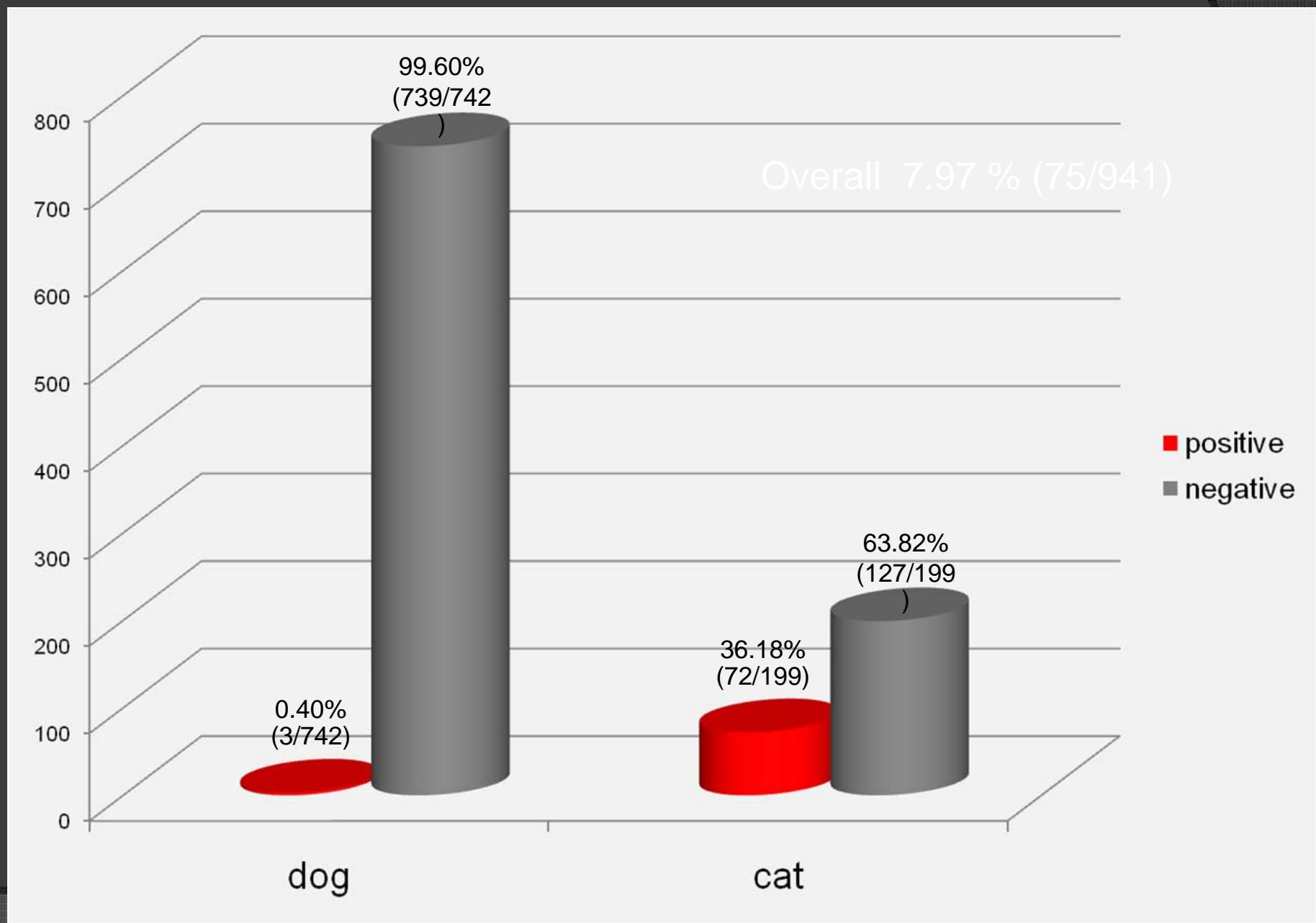
- No clinical sign
- Undistinguishable in changes of hematology and blood chemistry



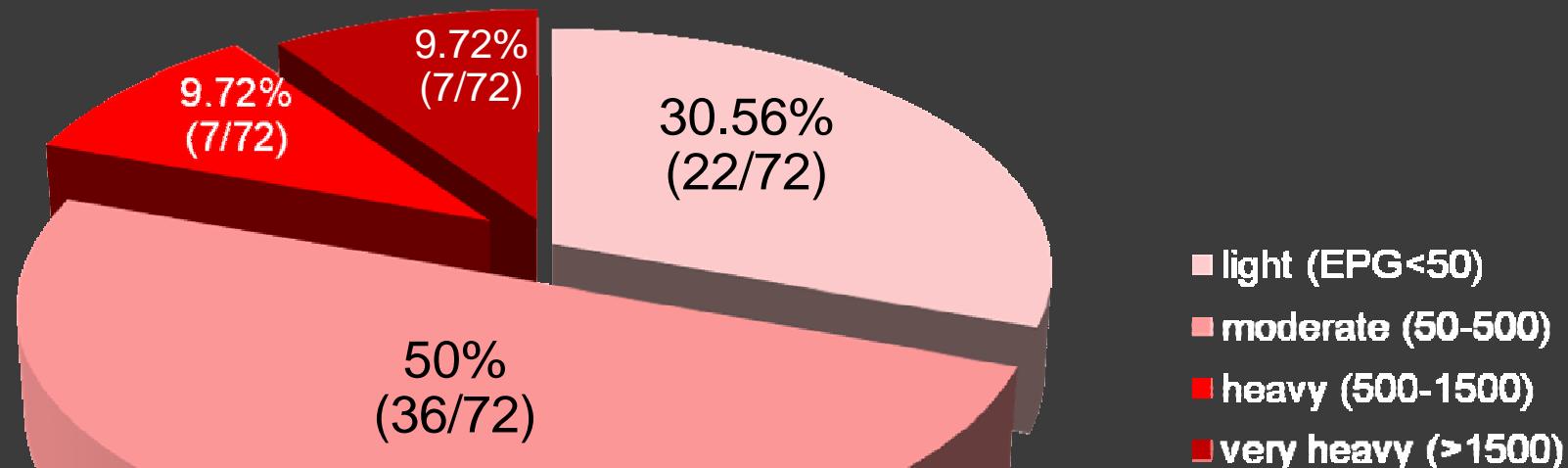
# Ultrasonograph of the liver of infected cat



# Prevalence of *O. viverrini* infection in dogs and cats in the endemic area



# Intensity of infection in cats



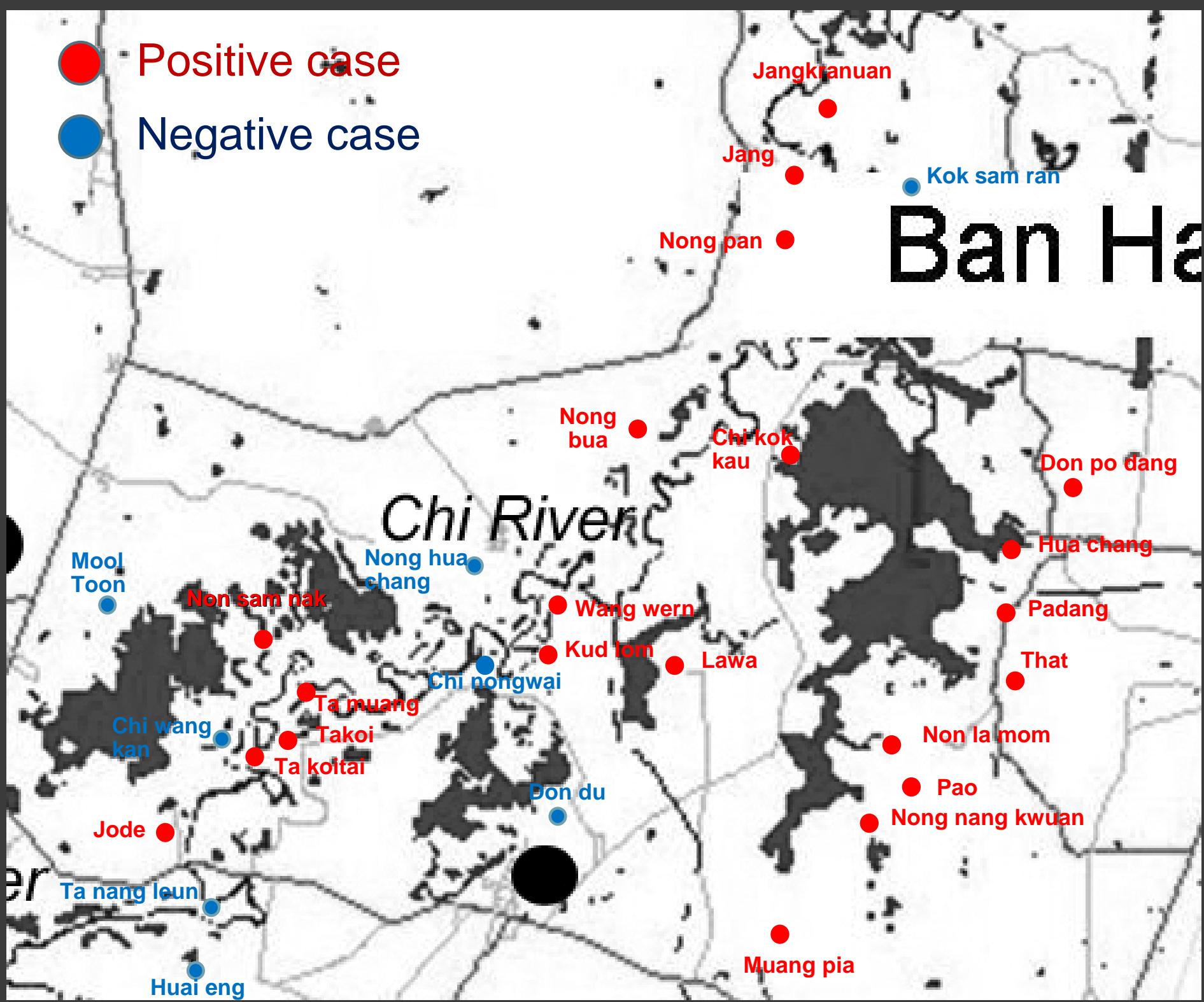
Average EPG = 611.39

# GPS data, Chi River Basin

Amphur	Villages	GPS	Elevation (m)	Amphur	Villages	GPS	Elevation (m)
Baan Phai	Chee Kokkau	N16-09-671, E102-39-857	156	Munchakiri	Nong Bua	ND	ND
	That	N16-07.536, E102-41-831	157		Jode	N16-06.152, E102-34.083,	161
	Lawa	N16-07-737, E102-39-456	170		Nong Huachang	ND	ND
	Padang Moo 6	N16-07-813, E 102-42-127	164		Jang	N16-13.266, E102-31.978,	188
	Pao	N16-06-938, E102-41-634	155		Nong Pan	N16-09.302, E102-34-624	162
	Non Lamom	N16-07-033, E102-41-737	156		Moon Toon	N16-08.648, E102-33.613	161
	Muang Pia	N16-04-777, E102-39-621	161		Chi Wang Kan	ND	ND
	Nong Nangkwan	N16-06-006, E102-41-085	159		Non Samnak	N16-09.477, E102-34.725	162
Chonnabot	Ta Muang	ND	ND	Ban Haat	Jang Kra Nuan	N16-13.061, E102-40.382	154
	Ta Koi	N16-07.406, E102-40.382	154		Don Po Dang	N16-09-577, E102-42-522	137
	Ta Koi Tai	N16-08.388, E102-35.261	158		Koksamran	N16-10-648, E102-42-175	157
	Chi Nong Wai	ND	ND		Nong Huachang	N16-08-804, E102-42-531	161
	Kud Lom	ND	ND				
	Wang Wern	N16-08.264, E102-35.005,	158				
	Huay Eing	N16-05-74, E102-35-04	164				
	Don Du	N16-06.172, E102-38.276,	164				
	Ta Nang Leaun	N16-06-013, E102-34-322	165				

Positive case

Negative case



Seasonal flooding would facilitate the completion of *O. viverrini* life cycle.





Chi River



Kang Lawa



# Open kitchen





Beware of the  
cat!!!

Leftover parts of fishes





**Defecate**  
**“everywhere”**

Why the prevalence  
of cats is higher than in the  
dog?

[www.gotoknow.org](http://www.gotoknow.org)  
[www.bloggang.com](http://www.bloggang.com)



Minstrel

## Other factors?

- Food type
- Host susceptibility



## Controlling infection in reservoir hosts

- Cat & dog population
- Anthelmintics
- Owner's attitude



# *Conclusion*

- Cat is an **important reservoir host** (prevalence 36.18% not included untamed cats).
- The animal **does not show significant clinical signs or changes** in hematology and blood chemistry.
- Seasonal flooding **may have linkage with the disease prevalence**.

# Acknowledgements

- KKU grant for young investigator 2007
- KKU annual grant 2008





Thank you for  
your attention