

Background

- Bats and rodents are the most numerous and widely distributed mammal groups globally
- Bats are reservoirs of highly pathogenic organisms: Nipah, Hendra, Lyssavirus
- Rodents are long recognised reservoirs of zoonotic disease: *Leptospira* sp, *Yersinia* sp

Objective

Screen bats and rodents for zoonotic pathogens



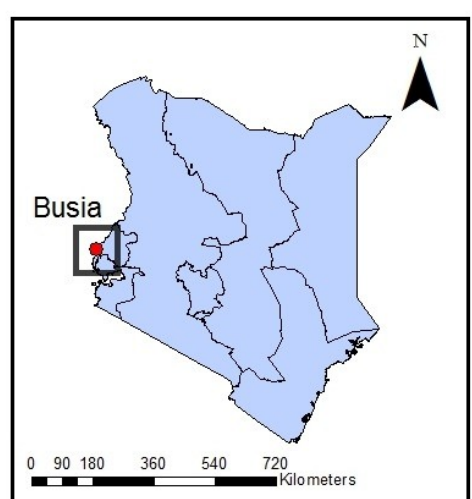
Justification

Next emerging disease likely to come from wildlife

Materials and methods

Study site

Randomly selected households within 45km radius from Busia, Kenya



Sampling procedure

- Capture animals—bats in mist nets, rodents in Sherman traps
- Anaesthetise
- Draw heart blood
- Euthanase
- Necropsy

Samples collected

- Fresh tissues (frozen)
- Fixed tissues
- Serum
- Whole blood
- Faeces



Sample analysis

- Blood smear exam
- PCR tissues and sequence for zoonotic pathogens
- Histopathology of fixed tissues

Results—to date

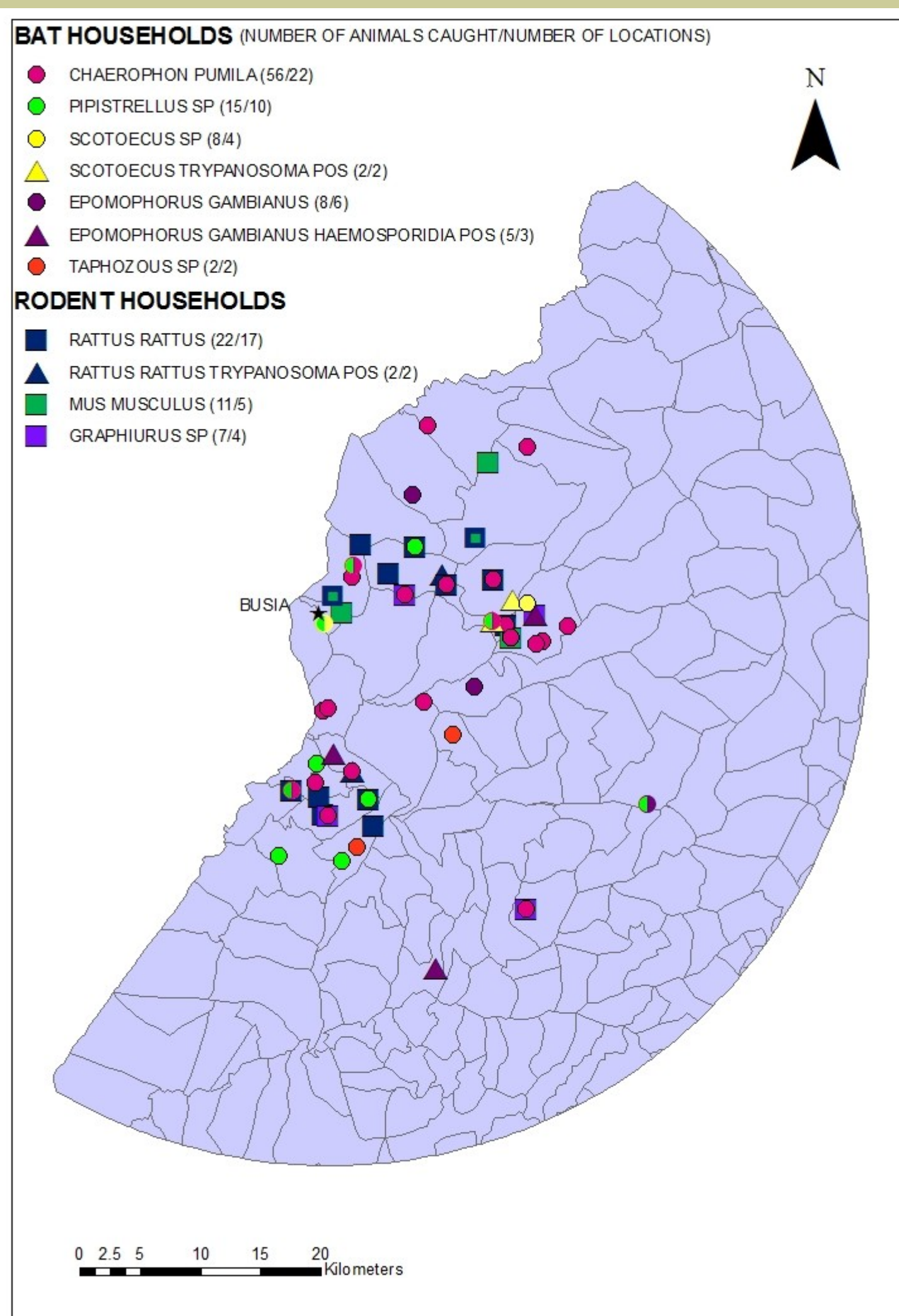


Figure 1 Map indicating location and number of species caught in study area

Key findings

5/8 *Epomophorus gambianus* positive for *Haemosporidia* sp

2/8 *Scotoecus* sp positive for *Trypanosoma* sp

2/22 *Rattus rattus* positive for *Trypanosoma* sp

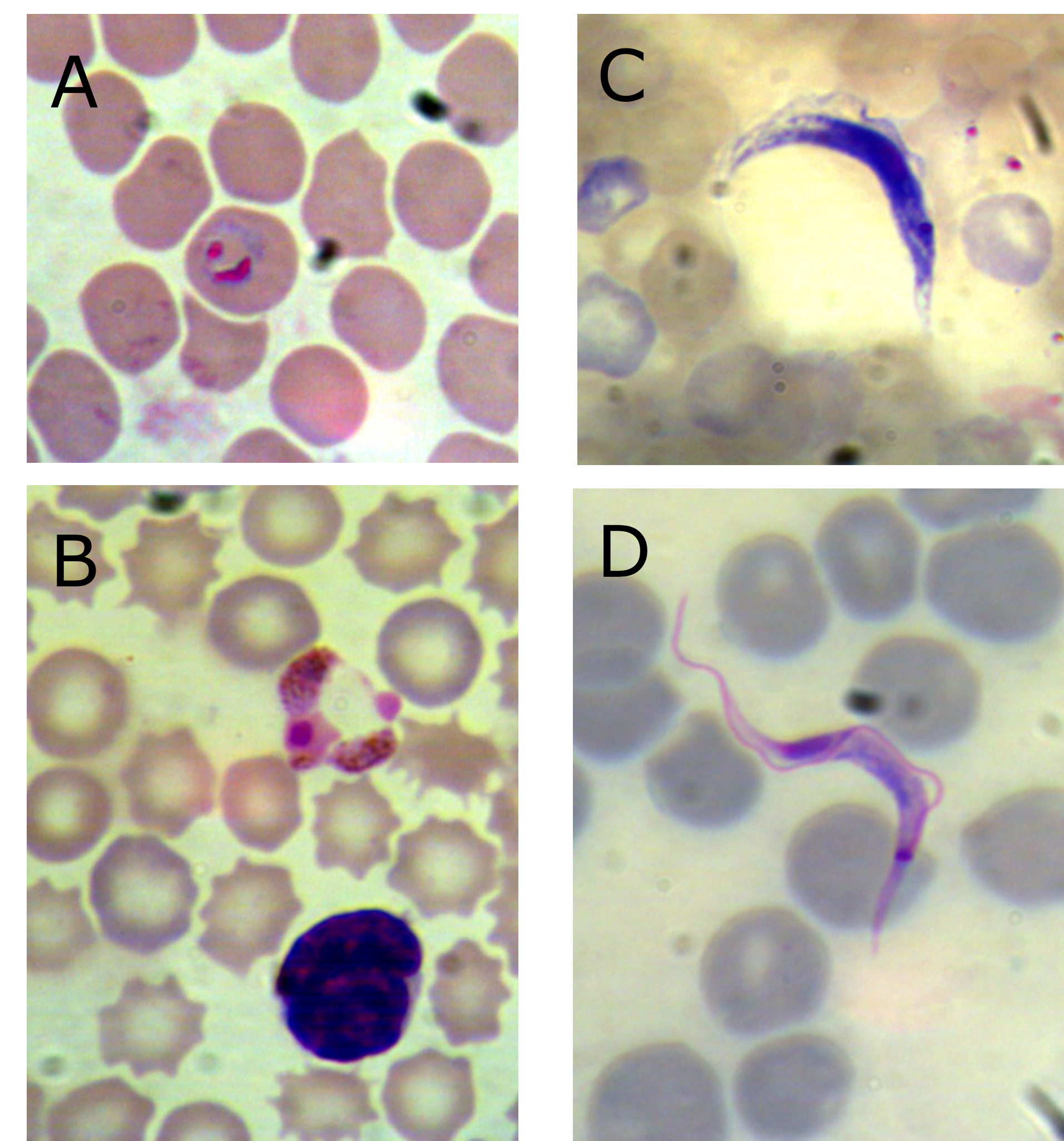


Fig 2 A&B *Haemosporidia* sp; C *Trypanosoma* sp from *Scotoecus*; D *Trypanosoma* sp from *Rattus*

Conclusions and Future plans

- Three previously undescribed parasite species identified in Kenyan wildlife
- Planned characterisation and speciation of parasites March 2013
- PCR & Next-Generation sequencing of tissues for novel pathogens (April-July 2013)
- Histologic exam of fixed tissues to determine pathology (April-July 2013)

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