

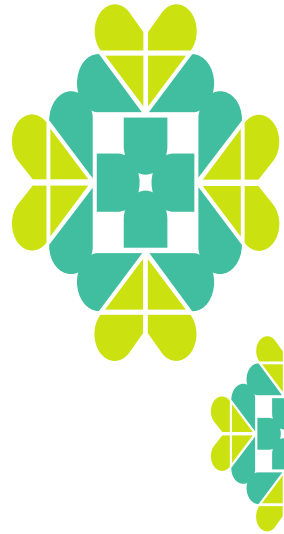
# **IDENTIFIKASI EKTOPARASIT TIKUS**

**Muhidin, SKM**

**BALAI BESAR LABORATORIUM  
KESEHATAN LINGKUNGAN 2024**



# Landasan Hukum



## Kegiatan surveilans dan pengendalian tikus

- ☐ Undang-Undang No. 17 Tahun 2023 tentang Kesehatan
- ☐ Permenkes No. 2 Tahun 2023.
- ☐ Petunjuk Teknis Surveilans Tikus Berbasis Laboratorium, Kementerian Kesehatan. 2019.
- ☐ Kurikulum pelatihan Surveilans reservoir penyakit PES dan Leptospirosis bagi pengelola program pengendalian Vektor di Dinas Kesehatan dan UPT Kemenkes, 2024

## Upaya pencegahan dan pengendalian

Menekan jumlah populasi vektor dan binatang pembawa penyakit sesuai dengan Standar Baku Mutu Kesehatan Lingkungan (SBMKL) yang telah ditetapkan dalam Peraturan Menteri Kesehatan Nomor 2 Tahun 2023 tentang Pelaksanaan Peraturan Pemerintah Nomor 66 Tahun 2014 tentang Kesehatan Lingkungan.

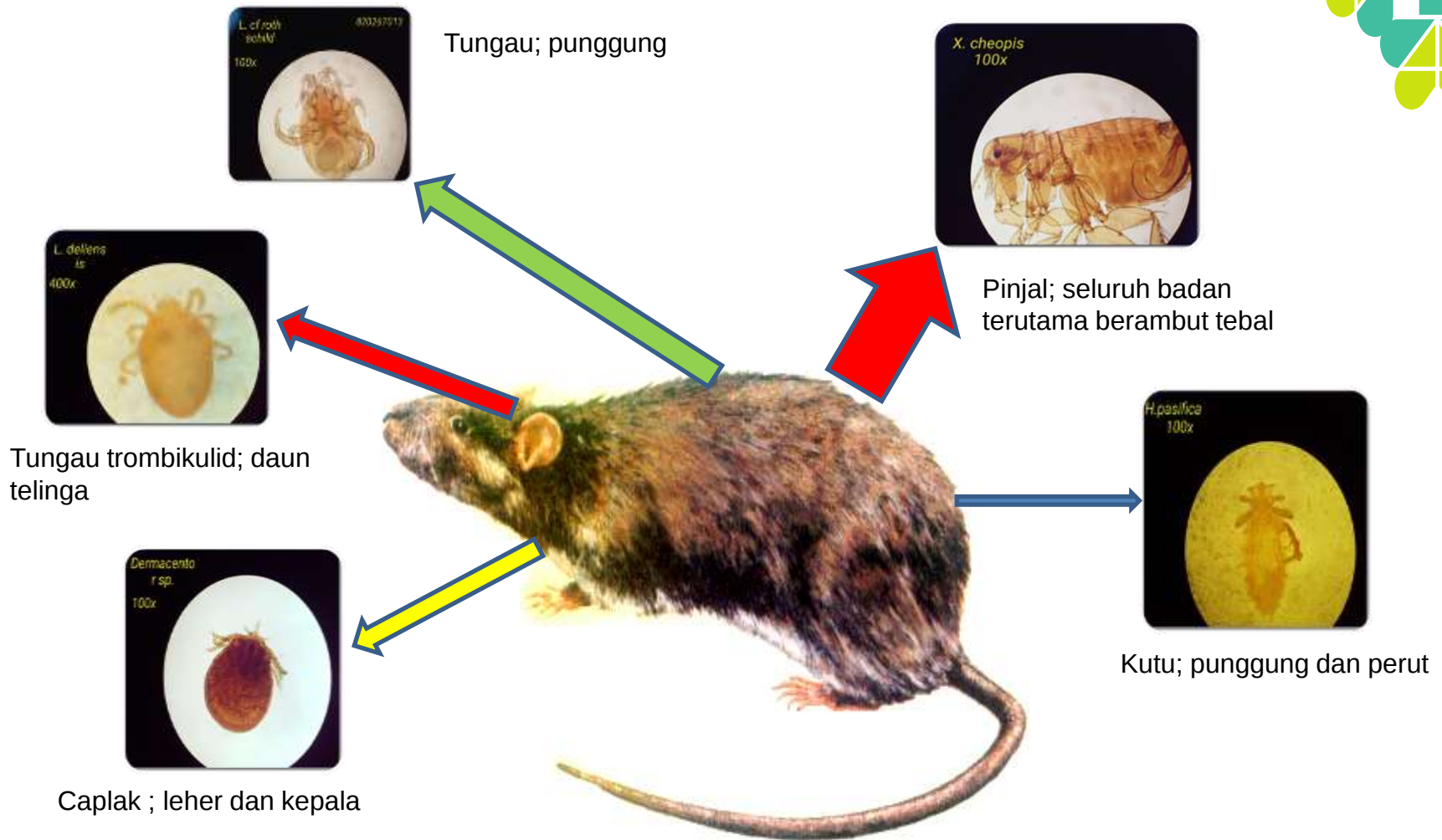
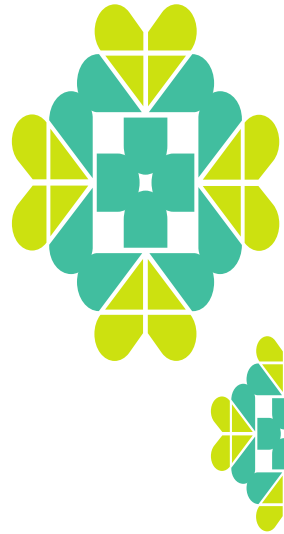
# IDENTIFIKASI EKTOPARASIT TIKUS

**Ektoparasit** merupakan organisme yang hidup dan tumbuh diluar tubuh organisme yang lainnya (host/inang) pada beberapa periode waktu dan bersifat **merugikan**

Ectoparasites and classification

C.E. HOPLA \*, L.A. DURDEN \*\* and J.E. KEIRANS \*\*

# DISTRIBUSI EKTOPARASIT PADA TIKUS





## EKTOPARASIT PADA TIKUS



*FLEA/ PINJAL*

**Siphonaptera**



*MITES/ TUNGA*

**Mesostigmata**



*TICK/ CAPLAK*

**Prostigmata**



*LICE/ KUTU*

**Phthiraptera**



*CHIGGERS/ LARVA TUNGAU*

**Metastigmata**



# Penyakit pada Manusia

## *Siphonaptera*

**Pinjal/ Flea**

**Pes/ Plague/ Black death**  
(*X. cheopis*, *N. sondaica*,  
*S. cognatus*)

**Murine thypus**  
(Xe. Cheopis)



**A molecular phylogeny of fleas (Insecta: Siphonaptera): origins and host associations**

Michael F. Whitinga,b,\* , Alison S. Whitinga, Michael W. Hastriterb and  
Katharina Dittmarac

| No | Jenis Pinjal di INDONESIA (LIPI)                             | Host/ inang                                                                                                                                                                                                                                                                                                                                         |
|----|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | <i>Lagaropsylla mera</i> Jordan & Rothschild, 1921           | <i>Myotis hasselti</i>                                                                                                                                                                                                                                                                                                                              |
| 2  | <i>Thaumapsylla breviceps orientalis</i> Smit, 1954:.        | <i>Rousettus ieschenaulti</i> , <i>Felis domesticus</i> ,<br><i>Eonycteris sphelea</i>                                                                                                                                                                                                                                                              |
| 3  | <i>Thaumapsylla longiforceps</i> Traub, 1951                 | <i>Cynopterus brachyotis</i> , <i>Rousettus amplexicaudatus</i> , <i>Eonycteris sphelea</i>                                                                                                                                                                                                                                                         |
| 4  | <i>Dasypsyllus gallinulae</i> Dale, 1878                     | <i>Sarang burung</i>                                                                                                                                                                                                                                                                                                                                |
| 5  | <i>Neopsylla sondaica</i> Jordan, 1931:                      | <i>Rattus exulans</i> , <i>Calloscyurus nottatus</i>                                                                                                                                                                                                                                                                                                |
| 6  | <i>Rothschildiana kopsteini</i> Jordan, 1951:                | <i>Rattus diardii</i> , <i>R. bartelsii</i> , <i>R. niviventer</i>                                                                                                                                                                                                                                                                                  |
| 7  | <i>Cratynius bartelsi</i> Jordan, 1933:                      | <i>Hylomis suillus</i> , <i>Rattus bartelsi</i>                                                                                                                                                                                                                                                                                                     |
| 8  | <i>Ctenocephalides felis felis</i> (Bouche, 1835):           | <i>Capra hircus</i> , <i>Felis domesticus</i> , <i>Vivera targalurga</i>                                                                                                                                                                                                                                                                            |
| 9  | <i>Ctenocephalides felis orientis</i> (Jordan, 1925) :       | <i>Canis familiaris</i> , <i>Paradoxurus hermaphroditus</i>                                                                                                                                                                                                                                                                                         |
| 10 | <i>Pulex irritans</i> Linn, 1758                             | <i>Cynopithecus niger</i> , <i>Pseudocheirus sp.</i> ,<br><i>Rattus sp.</i> , <i>Canis familiaris</i>                                                                                                                                                                                                                                               |
| 11 | <i>Xenopsylla cheopis</i> (Rothschild, 1903)                 | <i>Bat</i> , <i>Cynopterus brachyotis</i> , <i>Rattus bartelsii</i> , <i>R. cheopis</i> , <i>R. fulvescens</i> , <i>R. lepturus</i> , <i>R. norvegicus</i> , <i>R. r. breviceaudatus</i> , <i>R. r. exulans</i> , <i>R. r. palelae</i> , <i>R. r. sumbae</i> , <i>R. tiomanicus</i> , <i>R. diardii</i> , <i>Rattus sp.</i> , <i>Suncus murinus</i> |
| 12 | <i>Xenopsylla vexabilis</i> Jordan, 1925                     | <i>Rattus argentiventer</i> , <i>R. exulans</i> , <i>R. r. sumbae</i>                                                                                                                                                                                                                                                                               |
| 13 | <i>Xenopsylla prob. astia</i> :                              | <i>R. r. sumbae</i>                                                                                                                                                                                                                                                                                                                                 |
| 14 | <i>Stivalius cognatus cognatus</i> Jordan & Rothschild, 1922 | <i>R. fulvescens</i> , <i>R. exulans</i> , <i>Mus musculus castaneus</i> , <i>R. norvegicus</i> , <i>R. diardii</i> , <i>R. tiomanicus</i> , <i>R. bartelsii</i>                                                                                                                                                                                    |
| 15 | <i>Stivalius klossi</i> Jordan & Rotschild, 1922             | <i>R. edwardi</i> , <i>R. japorensis</i>                                                                                                                                                                                                                                                                                                            |
| 16 | <i>Medwayella robinsoni bogora</i> Traub, 1972 :             | <i>Calloscyurus nottatus</i>                                                                                                                                                                                                                                                                                                                        |
| 17 | <i>Medwayella dryadosa</i> Traub, 1972 :                     | <i>Rhinosciurus babicaudatus</i> , <i>Lariscus insignus</i>                                                                                                                                                                                                                                                                                         |
| 18 | <i>Nosopsyllus fasciatus</i> :                               | <i>Rattus tanezumi</i> , <i>Cibodas</i> 1973                                                                                                                                                                                                                                                                                                        |

| No | Jenis Pinjal di INDONESIA (LIPI)                                    | Host/ inang                                                                     |
|----|---------------------------------------------------------------------|---------------------------------------------------------------------------------|
| 19 | <i>Gymnomeropsylla bunomydis</i> Durden & Beaucournu, 2002          | <i>Bunomys crhysocomus</i>                                                      |
| 20 | <i>G. margaretamydis</i> Durden & Beaucournu, 2002                  | <i>Margaretamys parvus</i>                                                      |
| 21 | <i>Stivalius meridionalis</i> Beaucournu & Durden, 2001             | <i>Rattus tanezumi</i> , <i>Suncus murinus</i>                                  |
| 22 | <i>S. franciscae beaucournu</i> & Durden, 2001 :                    | <i>Rattus hoffmanni</i> , <i>Paruromys dominator</i>                            |
| 23 | <i>Sigmactenus sulawesiensis</i> Durden & Beaucournu, 2000          | endemic murine rodent in Sulawesi                                               |
| 24 | <i>Sigmactenus alticola pilosus</i> Durden & Beaucournu, 2000 :     | endemic murine rodent in Sulawesi                                               |
| 25 | <i>Sigmactenus alticola crassinavis</i> Durden & Beaucournu, 2000 : | endemic murine rodent in Sulawesi                                               |
| 26 | <i>Sigmactenus celebensis</i> : host/                               | Host?                                                                           |
| 27 | <i>Sigmactenus timorensis</i> ; host?                               | Host?                                                                           |
| 28 | <i>Gryphopsylla maxomydis</i> Durden & Beaucournu, 2006 :           | <i>Maxomys musschenbroekii</i> , <i>Paruromys dominator</i>                     |
| 29 | <i>Medwayella rubrisciurae</i> Durden & Beaucournu, 2006 :          | <i>Rubrisciurus rubriventer</i>                                                 |
| 30 | <i>Macrostylophora theresae</i> Durden & Beaucournu, 2006 :         | <i>Bunomys fratrorum</i> , <i>Paruromys dominator</i> , <i>Rattus xanthurus</i> |
| 31 | <i>Farhangia quattuordecimdentata</i> Mardon & Durden, 2003:        | <i>Prosciurillus murinus</i>                                                    |
| 32 | <i>Farhangia sedecimdentata</i> Mardon & Durden, 2004 :             | <i>Prosciurillus leucomus</i>                                                   |
| 33 | <i>Farhangia celebensis</i> Ewing :                                 | <i>Prosciurillus murinus</i>                                                    |
| 34 | <i>Nestivalius sulawesiensis</i> Mardon & Durden, 2004 :            | endemic murine rodent in Sulawesi                                               |
| 35 | <i>Neopsylla musseri</i> Beaucournu & Durden, 1999 :                | endemic murine rodent in Sulawesi                                               |
| 36 | <i>Palaeopsylla laxata</i> Jordan, 1933 :                           | <i>Crocidura brevicauda</i>                                                     |

# Penyakit pada Manusia

Tunga/ Mites

↓  
**Rickettsialpox** ,  
tunga --  
transovarial  
*L. sanguinis*

↓  
*Sarcoptes*

↓  
*Alergi*



<https://dph.illinois.gov/topics-services/environmental-health-protection/structural-pest-control/mites-affecting-humans.html>



The laelaptine mites of the ehinolaelaps complex from the southwest pasific area  
R.W. Strandmann and Carl J.M

# Distribusi Mites Kompleks di Indonesia

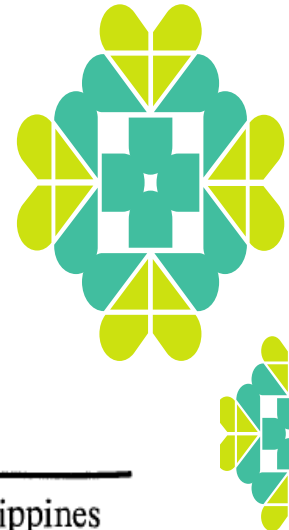


Table 1. Distribution of species.

|                    | New Guinea | Borneo | Java | Sumatra | Malaya | Thailand | Vietnam | Philippines |
|--------------------|------------|--------|------|---------|--------|----------|---------|-------------|
| echidninus         | ×          | ×      | ×    |         |        | ×        | ×       | ×           |
| sedlaceki n. sp.   | ×          | ×      |      |         |        |          |         | ×           |
| ornatus            |            |        |      |         |        |          |         | ×           |
| sculpturatus       |            | ×      |      | ×       |        |          |         |             |
| mercedae n. name   |            | ×      |      |         |        |          |         | ×           |
| barbarae n. sp.    | ×          |        |      |         |        |          |         |             |
| traubi             |            |        |      |         | ×      | ×        | ×       |             |
| aingworthae n. sp. |            | ×      |      |         |        | ×        | ×       |             |
| delta              |            |        |      |         | ×      |          |         |             |
| insignis           |            | ×      |      |         |        |          |         | ×           |
| sanguisugus        |            | ×      | ×    |         |        | ×        | ×       |             |
| sinuatus n. sp.    | ×          |        |      |         |        |          |         |             |
| wilsoni n. sp.     | ×          |        |      |         |        |          |         |             |

# Distribusi Mites Kompleks di Indonesia



574

Pacific Insects

Vol. 5, no.

Table 2. Host list.

|                            | aingworthae | delta | insignis   | ornatus  | sculpturatus | sinuatus  | wilsoni |
|----------------------------|-------------|-------|------------|----------|--------------|-----------|---------|
|                            | barbarae    |       | echidninus | mercedae | sanguisugus  | sedlaceki | traubi  |
| Dasyuridae                 |             |       |            |          |              |           |         |
| Antechinus wilhelmina      | ×           |       |            |          |              |           |         |
| Tupaiaidae                 |             |       |            |          |              |           |         |
| Tupaia glis                |             |       | ×          |          |              |           |         |
| Tupaia minor               |             |       |            |          |              | ×         |         |
| Sciuridae                  |             |       |            |          |              |           |         |
| Dremomys rufigenis         |             |       |            |          |              |           | ×       |
| Ratufa bicolor             |             | ×     |            |          |              |           |         |
| Sciurus culionensis        |             |       | ×          |          |              |           |         |
| Muridae                    |             |       |            |          |              |           |         |
| Bandicota indica           |             |       | ×          |          |              |           |         |
| Chiropodomys calamianensis |             |       |            | ×        |              |           |         |
| Chiropodomys gliroides     |             | ×     |            |          |              |           |         |
| Melomys levipes            |             |       |            |          |              | ×         | ×       |
| Mus cervicolor             |             |       |            |          |              |           | ×       |
| Mus musculus               |             |       | ×          |          |              |           |         |
| Pogonomys sp.              | ×           |       |            |          |              | ×         |         |
| Rattus edwardsi            |             |       |            |          |              |           | ×       |
| Rattus everetti            |             |       | ×          |          |              |           |         |
| Rattus exulans             |             |       | ×          | ×        |              | ×         |         |
| Rattus fulvescens          |             |       |            |          |              |           | ×       |
| Rattus leucopus            |             |       |            |          |              | ×         |         |
| Rattus mindanensis         |             |       | ×          |          |              |           |         |
| Rattus mulleri             |             |       |            |          |              | ×         |         |
| Rattus niviventer          | ×           |       | ×          |          | ×            |           | ×       |
| Rattus niobe               |             | ×     |            |          |              | ×         |         |
| Rattus norvegicus          |             |       | ×          |          |              |           |         |
| Rattus palawanensis        |             |       |            | ×        |              |           |         |
| Rattus panglima            |             |       | ×          | ×        |              |           |         |
| Rattus rajah               | ×           |       | ×          | ×        | ×            | ×         |         |
| Rattus rattus              | ×           |       | ×          |          | ×            |           |         |
| Rattus ruber               |             |       | ×          |          |              | ×         |         |
| Rattus surifer             | ×           |       |            |          |              | ×         |         |
| Rattus verecundus          |             |       |            |          |              | ×         |         |
| Rattus whiteheadi          |             |       |            |          |              | ×         |         |

# Penyakit pada Manusia

## *Prostigmata*

### Caplak/ Tick

**Tularemia**(*Y.pasteurelia*)  
Caplak Dermacentor

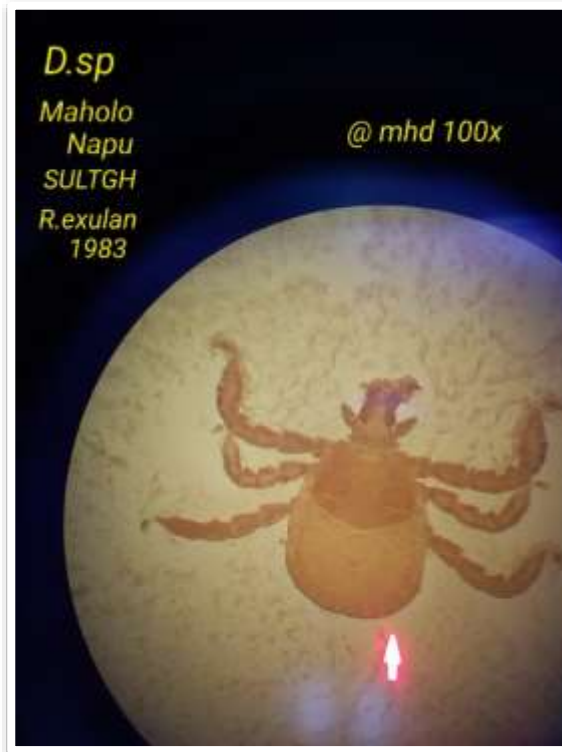
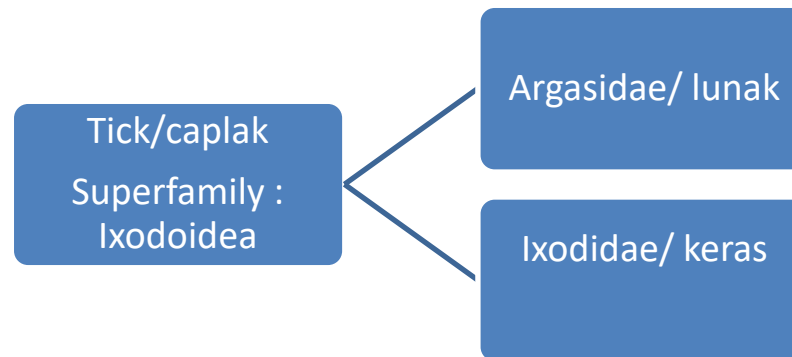
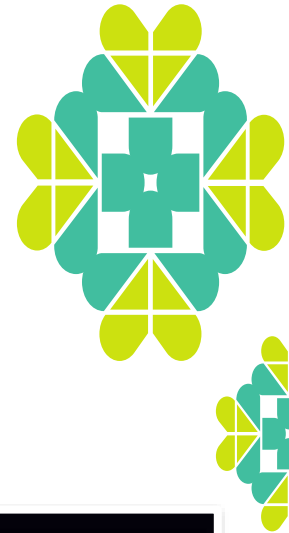


**Human babesiosis**  
Caplak boophillus



**Rocky mountain spotted fever**  
(*R. ricketsis*)-- *Mortalitas cukup tinggi*  
*Ixodes* - *D. andersoni*, *D. variabilis*,  
*N. americanus*





# Penyakit pada Manusia

## *Pthiraptera*

Kutu/ Lice



*Mycoplasma* *haemomuris*



*Rickettsia thypi*



*Trypanosoma lewisi*

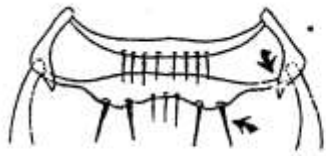
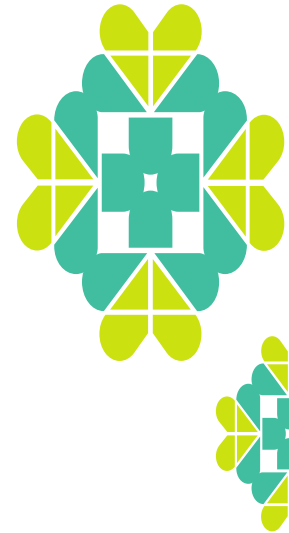
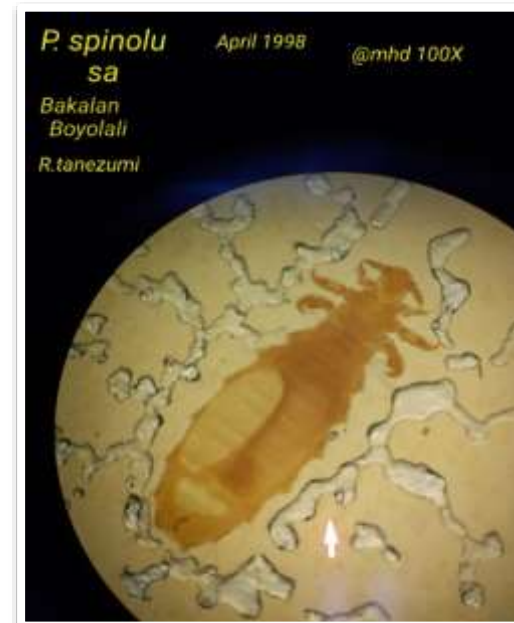


*Brucella brucei*

*H. pasifica*  
100x



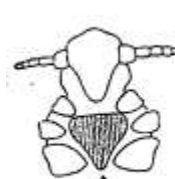
<https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/polyplax-spinulosa>



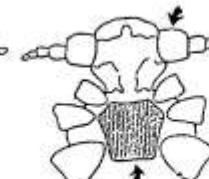
Gambar 5 A



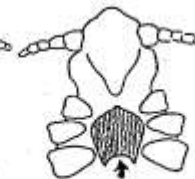
Gambar 5 B



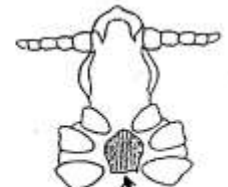
Gambar 7 A



Gambar 7 B



Gambar 7 C



Gambar 7 D

Sternit pertama segmen III abdomen meluas ke bagian lateral  
Sehingga bersentuhan dengan lempeng paratergal; sternit  
ini memiliki 2 atau 3 pasang seta kaku. (Gambar 5A).

Ektoparasit pada tikus.....Hoplopleura

Lempeng sternal toraks biasanya meruncing di bagian posterior  
Atau apabila berbentuk kerucut, selalu berhubungan  
dengan pembesaran pada segmen I antena (Gambar 7A & B).....Polyplax

# Penyakit pada Manusia

## *Metastigmata*

Larva Tunga/ Chiggers



**Scrub thypus**  
(*Rickettsia tsutsugamushi*)

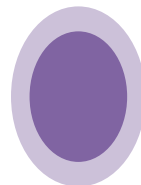
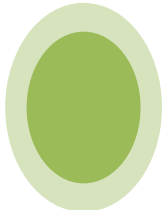


CFR 35 % pada saat perang dunia II.



# Jenis Tungau Trombiculid di Beberapa daerah di Indonesia

Tuti R hadi, Jakarta 1989



| Rodent Host                | Mites                                                                                                                                           | Chiggers                    | Ticks                                                                                             |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------------------|
| <i>Maxomys rajah</i>       | <i>Listrophoridae</i><br><i>Laelaps sanguisugus</i><br><i>Laelaps sculpturata</i><br><i>Longolaelaps longulus</i><br><i>Laelaps aingworthae</i> | <i>Gahrlepiea fletcheri</i> | <i>Amblyomma sp.</i><br><i>Dermacentor sp</i><br><i>Ixodes granulatus</i><br><i>Haemaphysalis</i> |
| <i>Leopoldamys sabanus</i> | <i>Laelaps aingworthae</i><br><i>Listrophoridae</i>                                                                                             | <i>Walchiella oudemansi</i> | <i>Dermacentor sp</i><br><i>Ixodes granulatus</i><br><i>Haemaphysalis</i>                         |
| <i>Sundamys mulleri</i>    | <i>Listrophoridae</i><br><i>Laelaps sculpturata</i>                                                                                             | <i>Gahrlepiea fletcheri</i> | <i>Dermacentor sp.</i><br><i>Ixodes granulatus</i><br><i>Haemaphysalis</i>                        |
| <i>Rattus bowersi</i>      | <i>Listrophoridae</i><br><i>Laelaps sculpturata</i><br><i>Laelaps aingworthae</i>                                                               | —                           | <i>Dermacentor sp.</i><br><i>Ixodes granulatus</i><br><i>Haemaphysalis</i>                        |
| <i>Maxomys whiteheadi</i>  | <i>Laelaps sculpturata</i><br><i>Laelaps aingworthae</i>                                                                                        | —                           | —                                                                                                 |
| <i>Tupaia glis</i>         | <i>Laelaps sculpturata</i><br><i>Laelaps aingworthae</i>                                                                                        | —                           | <i>Dermacentor sp.</i>                                                                            |
| <i>Lariscus insignis</i>   | —                                                                                                                                               | —                           | <i>Ixodes granulatus</i>                                                                          |

Ectoparasite fauna of rodents and shrews from four habitats in Kuala Lumpur and the states of Selangor and Negeri Sembilan, Malaysia and its public health significance





# TERIMA KASIH



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