Figure S1: Maximum Likelihood (ML) tree (GTR + G) depicting phylogenetic relationships among *Pneumocystis* from murid rodents inferred from concatenated mtLSU rRNA and mtSSU rRNA sequences excluding mtSSU rRNA hypervariable regions. Bootstrap support (%, 1000 replicates) and posterior probabilities of nodes are indicated above and below the branches, respectively. Node supports from within lineages were removed for clarity of presentation. Sequences from Southeast Asian murid rodents are in bold, other sequences are from GenBank (accession numbers in brackets). *Pneumocystis* lineages from murid rodent genera distributed in Southeast Asia are colored according to their host genus.



Table S1: Definition and host species of concatenated sequence types (mtLSU rRNA + mtSSU rRNA)

|  |  |  |  |
| --- | --- | --- | --- |
| Concatenated sequence types | mtLSU rRNA sequence type | mtSSU rRNA sequence type | Host species |
| CLS1 | HLSU1 | HSSU1 | *Cannomys badius* |
| CLS2 | HLSU2 | / | *Rattus nitidus* |
| CLS3 | HLSU3 | / | *Rattus nitidus* |
| CLS4 | HLSU4 | / | *Mus caroli* |
| CLS5 | HLSU4 | HSSU2 | *Mus caroli* |
| CLS6 | HLSU4 | HSSU3 | *Mus caroli* |
| CLS7 | HLSU5 | HSSU4 | *Mus cervicolor* |
| CLS8 | HLSU6 | HSSU5 | *Mus cooki* |
| CLS9 | HLSU7 | HSSU5 | *Mus cooki* |
| CLS10 | HLSU8 | HSSU6 | *Leopoldamys herberti* |
| CLS11 | HLSU9 | / | *Maxomys surifer* |
| CLS12 | HLSU10 | HSSU6 | *Maxomys surifer* |
| CLS13 | HLSU11 | / | *Niviventer fulvescens* |
| CLS14 | HLSU12 | HSSU7 | *Niviventer fulvescens* |
| CLS15 | HLSU13 | / | *Rattus exulans* |
| CLS16 | HLSU14 | / | *Rattus exulans* |
| CLS17 | HLSU15 | / | *Rattus exulans* |
| CLS18 | HLSU16 | / | *Rattus exulans* |
| CLS19 | HLSU17 | HSSU8 | *Rattus argentiventer* |
| CLS20 | HLSU17 | / | *Rattus exulans, Rattus argentiventer* |
| CLS21 | HLSU18 | / | *Rattus norvegicus* |
| CLS22 | HLSU19 | HSSU12 | *Rattus norvegicus* |
| CLS23 | HLSU19 | HSSU15 | *Rattus norvegicus* |
| CLS24 | HLSU20 | HSSU10 | *Rattus norvegicus* |
| CLS25 | HLSU20 | HSSU11 | *Rattus norvegicus* |
| CLS26 | HLSU20 | HSSU13 | *Rattus norvegicus* |
| CLS27 | HLSU20 | HSSU14 | *Rattus argentiventer* |
| CLS28 | HLSU20 | HSSU9 | *Rattus norvegicus* |
| CLS29 | HLSU20 | / | *Rattus norvegicus, rattus exulans* |
| CLS30 | HLSU21 | / | *Rattus tanezumi* R3 |
| CLS31 | HLSU22 | HSSU16 | *Rattus tanezumi* R3 |
| CLS32 | HLSU23 | / | *Rattus tanezumi* R3 |
| CLS33 | HLSU24 | / | *Rattus tanezumi* R3 |
| CLS34 | HLSU25 | / | *Rattus sakeratensis* |
| CLS35 | HLSU26 | HSSU20 | *Berylmys berdmorei* |
| CLS36 | HLSU27 | HSSU18 | *Berylmys berdmorei* |
| CLS37 | HLSU27 | HSSU20 | *Berylmys berdmorei* |
| CLS38 | HLSU27 | HSSU21 | *Berylmys berdmorei* |
| CLS39 | HLSU27 | / | *Berylmys berdmorei, Berylmys bowersi* |
| CLS40 | HLSU28 | / | *Berylmys bowersi* |
| CLS41 | HLSU29 | HSSU17 | *Berylmys berdmorei* |
| CLS42 | HLSU29 | HSSU19 | *Berylmys berdmorei* |
| CLS43 | HLSU29 | HSSU22 | *Berylmys bowersi* |
| CLS44 | HLSU30 | HSSU23 | *Berylmys bowersi* |
| CLS45 | HLSU31 | HSSU24 | *Bandicota indica* |
| CLS46 | HLSU32 | / | *Bandicota indica* |
| CLS47 | HLSU33 | / | *Bandicota indica* |
| CLS48 | HLSU34 | / | *Bandicota indica* |
| CLS49 | HLSU35 | / | *Bandicota indica* |
| CLS50 | HLSU36 | HSSU25 | *Bandicota indica* |
| CLS51 | HLSU36 | HSSU27 | *Bandicota indica* |
| CLS52 | HLSU36 | / | *Bandicota indica* |
| CLS53 | HLSU37 | / | *Bandicota indica* |
| CLS54 | HLSU38 | / | *Bandicota indica* |
| CLS55 | HLSU39 | HSSU26 | *Bandicota indica* |
| CLS56 | HLSU39 | HSSU29 | *Bandicota indica* |
| CLS57 | HLSU39 | / | *Bandicota indica* |
| CLS58 | HLSU40 | / | *Bandicota indica* |
| CLS59 | HLSU41 | / | *Bandicota indica* |
| CLS60 | HLSU42 | HSSU30 | *Bandicota savilei* |
| CLS61 | HLSU43 | HSSU28 | *Bandicota savilei* |
| CLS62 | HLSU43 | / | *Bandicota savilei* |
| CLS63 | HLSU44 | HSSU38 | *Rattus exulans* |
| CLS64 | HLSU45 | HSSU38 | *Rattus exulans* |
| CLS65 | HLSU45 | HSSU37 | *Rattus exulans* |
| CLS66 | HLSU46 | / | *Rattus andamanensis* |
| CLS67 | HLSU47 | HSSU35 | *Rattus nitidus* |
| CLS68 | HLSU48 | / | *Rattus nitidus* |
| CLS69 | HLSU49 | HSSU34 | *Rattus nitidus* |
| CLS70 | HLSU50 | HSSU34 | *Rattus nitidus* |
| CLS71 | HLSU51 | HSSU31 | *Rattus norvegicus* |
| CLS72 | HLSU52 | / | *Rattus norvegicus* |
| CLS73 | HLSU53 | HSSU33 | *Rattus norvegicus* |
| CLS74 | HLSU54 | HSSU33 | *Rattus norvegicus* |
| CLS75 | HLSU55 | HSSU42 | *Rattus tanezumi* R3 |
| CLS76 | HLSU56 | HSSU43 | *Rattus tanezumi* R3 |
| CLS77 | HLSU57 | HSSU36 | *Rattus sakeratensis* |
| CLS78 | HLSU58 | HSSU39 | *Rattus sakeratensis* |
| CLS79 | HLSU59 | / | *Rattus sakeratensis* |
| CLS80 | HLSU60 | HSSU39 | *Rattus sakeratensis* |
| CLS81 | HLSU61 | HSSU39 | *Rattus sakeratensis* |
| CLS82 | HLSU62 | HSSU32 | *Rattus nitidus* |
| CLS83 | HLSU62 | HSSU36 | *Rattus sakeratensis* |
| CLS84 | HLSU62 | HSSU39 | *Rattus sakeratensis* |
| CLS85 | HLSU62 | HSSU42 | *Rattus tanezumi* R3 |
| CLS86 | HLSU62 | / | *Rattus nitidus* |
| CLS87 | HLSU63 | HSSU33 | *Rattus tanezumi* R2 |
| CLS88 | HLSU64 | HSSU41 | *Rattus tanezumi* R2 |
| CLS89 | HLSU64 | HSSU43 | *Rattus tanezumi* R3 |
| CLS90 | HLSU65 | HSSU41 | *Rattus tanezumi* R2 |
| CLS91 | HLSU66 | / | *Rattus tanezumi* R2 |
| CLS92 | HLSU67 | / | *Rattus tanezumi* R2 |
| CLS93 | HLSU68 | HSSU32 | *Rattus tanezumi* R2 |
| CLS94 | HLSU68 | HSSU39 | *Rattus sakeratensis* |
| CLS95 | HLSU68 | HSSU40 | *Rattus sakeratensis* |
| CLS96 | HLSU68 | HSSU43 | *Rattus tanezumi* R2 |
| CLS97 | HLSU68 | / | *Rattus sakeratensis, Rattus nitidus* |
| CLS98 | HLSU69 | HSSU33 | *Rattus norvegicus* |

Table S2: Definition and host species of concatenated sequence types without mtSSU rRNA hypervariable regions

|  |  |  |  |
| --- | --- | --- | --- |
| Concatenated sequence types | mtLSU rRNA sequence type | mtSSU rRNA sequence type | Host species |
| CLS1 | HLSU1 | HSSU1 | *Cannomys badius* |
| CLS2 | HLSU2 | / | *Rattus nitidus* |
| CLS3 | HLSU3 | / | *Rattus nitidus* |
| CLS4 | HLSU4 | / | *Mus caroli* |
| CLS5 | HLSU4 | HSSU2 | *Mus caroli* |
| CLS6 | HLSU4 | HSSU3 | *Mus caroli* |
| CLS7 | HLSU5 | HSSU4 | *Mus cervicolor* |
| CLS8 | HLSU6 | HSSU5 | *Mus cooki* |
| CLS9 | HLSU7 | HSSU5 | *Mus cooki* |
| CLS10 | HLSU8 | HSSU6 | *Leopoldamys herberti* |
| CLS11 | HLSU9 | / | *Maxomys surifer* |
| CLS12 | HLSU10 | HSSU6 | *Maxomys surifer* |
| CLS13 | HLSU11 | / | *Niviventer fulvescens* |
| CLS14 | HLSU12 | HSSU7 | *Niviventer fulvescens* |
| CLS15 | HLSU13 | / | *Rattus exulans* |
| CLS16 | HLSU14 | / | *Rattus exulans* |
| CLS17 | HLSU15 | / | *Rattus exulans* |
| CLS18 | HLSU16 | / | *Rattus exulans* |
| CLS19 | HLSU17 | HSSU8 | *Rattus argentiventer* |
| CLS20 | HLSU17 | / | *Rattus exulans, Rattus argentiventer* |
| CLS21 | HLSU18 | / | *Rattus norvegicus* |
| CLS22 | HLSU19 | HSSU12 | *Rattus norvegicus* |
| CLS23 | HLSU19 | HSSU15 | *Rattus norvegicus* |
| CLS24 | HLSU20 | HSSU10 | *Rattus norvegicus* |
| CLS25 | HLSU20 | HSSU11 | *Rattus norvegicus* |
| CLS26 | HLSU20 | HSSU13 | *Rattus norvegicus* |
| CLS27 | HLSU20 | HSSU14 | *Rattus argentiventer* |
| CLS28 | HLSU20 | HSSU9 | *Rattus norvegicus* |
| CLS29 | HLSU20 | / | *Rattus norvegicus, rattus exulans* |
| CLS30 | HLSU21 | / | *Rattus tanezumi* R3 |
| CLS31 | HLSU22 | HSSU16 | *Rattus tanezumi* R3 |
| CLS32 | HLSU23 | / | *Rattus tanezumi* R3 |
| CLS33 | HLSU24 | / | *Rattus tanezumi* R3 |
| CLS34 | HLSU25 | / | *Rattus sakeratensis* |
| CLS35 | HLSU26 | HSSU20 | *Berylmys berdmorei* |
| CLS36\_37\_38 | HLSU27 | HSSU18\_20\_21 | *Berylmys berdmorei* |
| CLS39 | HLSU27 | / | *Berylmys berdmorei, Berylmys bowersi* |
| CLS40 | HLSU28 | / | *Berylmys bowersi* |
| CLS41 | HLSU29 | HSSU17 | *Berylmys berdmorei* |
| CLS42\_43 | HLSU29 | HSSU19\_22 | *Berylmys berdmorei, Berylmys bowersi* |
| CLS44 | HLSU30 | HSSU23 | *Berylmys bowersi* |
| CLS45 | HLSU31 | HSSU24 | *Bandicota indica* |
| CLS46 | HLSU32 | / | *Bandicota indica* |
| CLS47 | HLSU33 | / | *Bandicota indica* |
| CLS48 | HLSU34 | / | *Bandicota indica* |
| CLS49 | HLSU35 | / | *Bandicota indica* |
| CLS50\_51 | HLSU36 | HSSU25\_27 | *Bandicota indica* |
| CLS52 | HLSU36 | / | *Bandicota indica* |
| CLS53 | HLSU37 | / | *Bandicota indica* |
| CLS54 | HLSU38 | / | *Bandicota indica* |
| CLS55 | HLSU39 | HSSU26 | *Bandicota indica* |
| CLS56 | HLSU39 | HSSU29 | *Bandicota indica* |
| CLS57 | HLSU39 | / | *Bandicota indica* |
| CLS58 | HLSU40 | / | *Bandicota indica* |
| CLS59 | HLSU41 | / | *Bandicota indica* |
| CLS60 | HLSU42 | HSSU30 | *Bandicota savilei* |
| CLS61 | HLSU43 | HSSU28 | *Bandicota savilei* |
| CLS62 | HLSU43 | / | *Bandicota savilei* |
| CLS63 | HLSU44 | HSSU38 | *Rattus exulans* |
| CLS64 | HLSU45 | HSSU38 | *Rattus exulans* |
| CLS65 | HLSU45 | HSSU37 | *Rattus exulans* |
| CLS66 | HLSU46 | / | *Rattus andamanensis* |
| CLS67 | HLSU47 | HSSU35 | *Rattus nitidus* |
| CLS68 | HLSU48 | / | *Rattus nitidus* |
| CLS69 | HLSU49 | HSSU34 | *Rattus nitidus* |
| CLS70 | HLSU50 | HSSU34 | *Rattus nitidus* |
| CLS71 | HLSU51 | HSSU31 | *Rattus norvegicus* |
| CLS72 | HLSU52 | / | *Rattus norvegicus* |
| CLS73 | HLSU53 | HSSU33 | *Rattus norvegicus* |
| CLS74 | HLSU54 | HSSU33 | *Rattus norvegicus* |
| CLS75 | HLSU55 | HSSU42 | *Rattus tanezumi* R3 |
| CLS76 | HLSU56 | HSSU43 | *Rattus tanezumi* R3 |
| CLS77 | HLSU57 | HSSU36 | *Rattus sakeratensis* |
| CLS78 | HLSU58 | HSSU39 | *Rattus sakeratensis* |
| CLS79 | HLSU59 | / | *Rattus sakeratensis* |
| CLS80 | HLSU60 | HSSU39 | *Rattus sakeratensis* |
| CLS81 | HLSU61 | HSSU39 | *Rattus sakeratensis* |
| CLS82 | HLSU62 | HSSU32 | *Rattus nitidus* |
| CLS83 | HLSU62 | HSSU36 | *Rattus sakeratensis* |
| CLS84\_85 | HLSU62 | HSSU39\_42 | *Rattus sakeratensis, Rattus tanezumi* R3 |
| CLS86 | HLSU62 | / | *Rattus nitidus* |
| CLS87 | HLSU63 | HSSU33 | *Rattus tanezumi* R2 |
| CLS88 | HLSU64 | HSSU41 | *Rattus tanezumi* R2 |
| CLS89 | HLSU64 | HSSU43 | *Rattus tanezumi* R3 |
| CLS90 | HLSU65 | HSSU41 | *Rattus tanezumi* R2 |
| CLS91 | HLSU66 | / | *Rattus tanezumi* R2 |
| CLS92 | HLSU67 | / | *Rattus tanezumi* R2 |
| CLS93 | HLSU68 | HSSU32 | *Rattus tanezumi* R2 |
| CLS94\_95 | HLSU68 | HSSU39\_40 | *Rattus sakeratensis* |
| CLS96 | HLSU68 | HSSU43 | *Rattus tanezumi* R2 |
| CLS97 | HLSU68 | / | *Rattus sakeratensis, Rattus nitidus* |
| CLS98 | HLSU69 | HSSU33 | *Rattus norvegicus* |

Table S3: Hosts and geographical distribution of mtLSU rRNA sequence types isolated in Southeast Asian murid rodents. Host species are abbreviated as follows: *Cannomys badius* (Cba), *Mus caroli* (Mca), *Mus cervicolor* (Mce), *Mus cooki* (Mco), *Maxomys surifer* (Msu), *Niviventer fulvescens* (Nfu), *Leopoldamys herbert*i (Lhe), *Berylmys berdmorei* (Bbe), *Berylmys bowersi* (Bbo), *Bandicota indica* (Bin), *Bandicota savilei* (Bsa), *Rattus nitidus* (Rni), *Rattus norvegicus* (Rno), *Rattus exulans* (Rex), *Rattus andamanensis* (Ran), *Rattus argentiventer* (Rar), *Rattus sakeratensis* (Rsa), *Rattus tanezumi* R3 (RR3), *Rattus tanezumi* R2 (RR2). *Pneumocystis* sequence types shared among several rodent genera/species are in bold.

|  | Cambodia | Laos PDR | Thailand |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Phnom Penh 2008 | Prey Veng 2008 | Mondolkiri 2009 | Sihanouk 2009 | Luang Prabang 2008 | Luang Prabang 2010 | Champasak 2009 | Ratchaburi 1998 | Nakhon Pathom 2005 | Loei 2006 | Loei 2007 | Loei 2009 | Phrae 2006 | Phrae 2007 | Nan 2008 | Nan 2010 | Buriram 2009 | n sequences | Phylogenetic lineage (species) |
| n | 11 | 8 | 7 | 5 | 23 | 5 | 14 | 27 | 2 | 4 | 3 | 1 | 5 | 1 | 10 | 2 | 2 |  |  |
| HLSU1 |  |  |  |  |  | Cba |  |  |  |  |  |  |  |  |  |  |  | 1 | 3 |
| HLSU2 |  |  |  |  | Rni |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 5 |
| HLSU3 |  |  |  |  | Rni |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 5 |
| HLSU4 |  |  |  |  | Mca |  |  |  |  |  |  |  |  |  |  |  |  | 7 | 7 (*P. murina*) |
| HLSU5 |  |  |  |  |  |  |  |  |  | Mce |  |  |  |  |  |  | Mce | 2 | 7 (*P. murina*) |
| HLSU6 |  |  |  |  | Mco |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 7 (*P. murina*) |
| HLSU7 |  |  |  |  | Mco |  |  |  |  |  |  |  | Mco |  |  |  |  | 3 | 7 (*P. murina*) |
| HLSU8 |  |  |  |  |  |  |  |  |  | Lhe |  |  |  |  |  |  |  | 1 | 8 |
| HLSU9 |  |  |  |  |  |  |  |  |  |  | Msu |  |  |  |  |  |  | 1 | 8 |
| HLSU10 |  |  |  |  |  |  |  |  |  |  | Msu |  |  |  |  |  |  | 2 | 8 |
| HLSU11 |  |  | Nfu |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 8 |
| HLSU12 |  |  | Nfu |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 8 |
| HLSU13 | Rex |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 9 (*P. carinii*) |
| HLSU14 | Rex |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 9 (*P. carinii*) |
| HLSU15 | Rex |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 9 (*P. carinii*) |
| HLSU16 |  |  |  |  |  |  |  | Rex |  |  |  |  |  |  |  |  |  | 1 | 9 (*P. carinii*) |
| **HLSU17** | **Rex** | **Rar** |  |  |  |  |  | **Rex** |  |  |  |  |  |  |  |  |  | **4** | **9 (*P. carinii*)** |
| HLSU18 |  |  |  | Rno |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 9 (*P. carinii*) |
| HLSU19 | Rno |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 9 (*P. carinii*) |
| **HLSU20** | **Rno, Rex** | **Rar** |  |  |  |  |  | **Rno** | **Rno** |  |  |  |  |  |  |  |  | **10** | **9 (*P. carinii*)** |
| HLSU21 |  |  |  | RR3 |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 9 (*P. carinii*) |
| HLSU22 |  |  |  |  |  |  |  | RR3 |  |  |  |  |  |  |  |  |  | 1 | 9 (*P. carinii*) |
| HLSU23 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | RR3 | 1 | 9 (*P. carinii*) |
| HLSU24 |  |  | RR3 | RR3 |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 9 (*P. carinii*) |
| HLSU25 |  |  |  |  |  |  |  |  |  |  |  | Rsa |  |  |  |  |  | 1 | 9 (*P. carinii*) |
| HLSU26 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Bbe |  |  | 1 | 11 |
| **HLSU27** |  |  | **Bbe** |  | **Bbo** |  | **Bbe** |  |  |  |  |  |  |  | **Bbe** |  |  | **9** | **11** |
| HLSU28 |  |  |  |  |  | Bbo |  |  |  |  |  |  |  |  |  |  |  | 1 | 11 |
| **HLSU29** |  |  |  |  |  |  |  |  |  | **Bbo** |  |  |  |  | **Bbe** |  |  | **3** | **11** |
| HLSU30 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Bbo |  |  | 1 | 11 |
| HLSU31 |  |  | Bin |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 10 |
| HLSU32 |  |  |  |  |  |  | Bin |  |  |  |  |  |  |  |  |  |  | 1 | 10 |
| HLSU33 |  | Bin |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 10 |
| HLSU34 |  | Bin |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 10 |
| HLSU35 |  | Bin |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 10 |
| HLSU36 |  | Bin |  |  | Bin |  |  |  |  |  |  |  |  |  |  |  |  | 3 | 10 |
| HLSU37 |  |  |  |  |  |  |  | Bin |  |  |  |  |  |  |  |  |  | 1 | 10 |
| HLSU38 |  |  |  |  |  |  |  | Bin |  |  |  |  |  |  |  |  |  | 1 | 10 |
| HLSU39 |  |  |  |  |  |  |  | Bin |  |  |  |  |  |  |  |  |  | 6 | 10 |
| HLSU40 |  |  |  |  |  |  |  | Bin |  |  |  |  |  |  |  |  |  | 1 | 10 |
| HLSU41 |  |  |  |  |  |  |  | Bin |  |  |  |  |  |  |  |  |  | 1 | 10 |
| HLSU42 |  |  |  |  |  |  |  | Bsa |  |  |  |  |  |  |  |  |  | 1 | 10 |
| HLSU43 |  |  |  |  |  |  |  | Bsa |  |  |  |  | Bsa | Bsa |  |  |  | 5 | 10 |
| HLSU44 |  |  |  |  |  |  | Rex |  |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| HLSU45 |  |  |  |  |  |  | Rex | Rex |  |  |  |  |  |  |  |  |  | 2 | 12 (*P. wakefieldiae*) |
| HLSU46 |  |  |  |  |  | Ran |  |  |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| HLSU47 |  |  |  |  | Rni |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| HLSU48 |  |  |  |  | Rni |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| HLSU49 |  |  |  |  | Rni |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| HLSU50 |  |  |  |  | Rni |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| HLSU51 |  |  |  |  |  |  |  | Rno |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| HLSU52 |  |  |  |  |  |  |  | Rno |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| HLSU53 |  |  |  |  |  |  |  | Rno |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| HLSU54 |  |  |  |  |  |  |  | Rno |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| HLSU55 |  |  |  | RR3 |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| HLSU56 |  |  |  |  |  | RR3 |  |  |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| HLSU57 |  |  |  |  |  |  | Rsa |  |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| HLSU58 |  |  |  |  |  |  | Rsa |  |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| HLSU59 |  |  |  |  |  |  | Rsa |  |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| HLSU60 |  |  |  |  |  |  | Rsa |  |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| HLSU61 |  |  |  |  |  |  | Rsa |  |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| **HLSU62** |  |  | **RR3** |  | **Rni** |  | **Rsa** |  |  |  |  |  |  |  |  |  |  | **5** | **12 (*P. wakefieldiae*)** |
| HLSU63 |  |  |  |  |  |  |  | RR2 |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| **HLSU64** |  |  |  | **RR3** |  |  |  |  |  | **RR2** |  |  |  |  |  |  |  | **2** | **12 (*P. wakefieldiae*)** |
| HLSU65 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | RR2 |  |  | 1 | 12 (*P. wakefieldiae*) |
| HLSU66 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | RR2 |  |  | 1 | 12 (*P. wakefieldiae*) |
| HLSU67 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | RR2 |  | 1 | 12 (*P. wakefieldiae*) |
| **HLSU68** |  |  |  |  | **Rni, RR2** | **Rni** | **Rsa** | **Rsa** |  |  |  |  |  |  |  | **RR2** |  | **8** | **12 (*P. wakefieldiae*)** |
| HLSU69 |  |  |  |  |  |  |  | Rno |  |  |  |  |  |  |  |  |  | 2 | 12 (*P. wakefieldiae*) |

Table S4: Hosts and geographical distribution of mtSSU rRNA sequence types isolated in Southeast Asian murid rodents. Host species are abbreviated as follows: *Cannomys badius* (Cba), *Mus caroli* (Mca), *Mus cervicolor* (Mce), *Mus cooki* (Mco), *Maxomys surifer* (Msu), *Niviventer fulvescens* (Nfu), *Leopoldamys herbert*i (Lhe), *Berylmys berdmorei* (Bbe), *Berylmys bowersi* (Bbo), *Bandicota indica* (Bin), *Bandicota savilei* (Bsa), *Rattus nitidus* (Rni), *Rattus norvegicus* (Rno), *Rattus exulans* (Rex), *Rattus andamanensis* (Ran), *Rattus argentiventer* (Rar), *Rattus sakeratensis* (Rsa), *Rattus tanezumi* R3 (RR3), *Rattus tanezumi* R2 (RR2). *Pneumocystis* sequence types shared among several rodent genera/species are in bold.

|  | Cambodia | Laos PDR | Thailand |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Phnom Penh 2008 | Prey Veng 2008 | Mondolkiri 2009 | Sihanouk 2009 | Luang Prabang 2008 | Luang Prabang 2010 | Champasak 2009 | Ratchaburi 1998 | Nakhon Pathom 2005 | Loei 2006 | Loei 2007 | Loei 2009 | Phrae 2006 | Phrae 2007 | Nan 2008 | Nan 2010 | Buriram 2009 | n sequences | Phylogenetic lineage (species) |
| n | 6 | 3 | 5 | 3 | 15 | 3 | 9 | 16 | 0 | 4 | 2 | 0 | 2 | 0 | 7 | 1 | 1 |  |  |
| HSSU1 |  |  |  |  |  | Cba |  |  |  |  |  |  |  |  |  |  |  | 1 | 3 |
| HSSU2 |  |  |  |  | Mca |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 7 (*P. murina*) |
| HSSU3 |  |  |  |  | Mca |  |  |  |  |  |  |  |  |  |  |  |  | 5 | 7 (*P. murina*) |
| HSSU4 |  |  |  |  |  |  |  |  |  | Mce |  |  |  |  |  |  | Mce | 2 | 7 (*P. murina*) |
| HSSU5 |  |  |  |  | Mco |  |  |  |  |  |  |  | Mco |  |  |  |  | 5 | 7 (*P. murina*) |
| **HSSU6** |  |  |  |  |  |  |  |  |  | **Lhe** | **Msu** |  |  |  |  |  |  | **3** | **8** |
| HSSU7 |  |  | Nfu |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 8 |
| HSSU8 |  | Rar |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 9 (*P. carinii*) |
| HSSU9 |  |  |  |  |  |  |  | Rno |  |  |  |  |  |  |  |  |  | 1 | 9 (*P. carinii*) |
| HSSU10 | Rno |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 9 (*P. carinii*) |
| HSSU11 | Rno |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 9 (*P. carinii*) |
| HSSU12 | Rno |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 9 (*P. carinii*) |
| HSSU13 | Rno |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 9 (*P. carinii*) |
| HSSU14 |  | Rar |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 9 (*P. carinii*) |
| HSSU15 | Rno |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 9 (*P. carinii*) |
| HSSU16 |  |  |  |  |  |  |  | RR3 |  |  |  |  |  |  |  |  |  | 1 | 9 (*P. carinii*) |
| HSSU17 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Bbe |  |  | 1 | 11 |
| HSSU18 |  |  | Bbe |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 11 |
| HSSU19 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Bbe |  |  | 1 | 11 |
| HSSU20 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Bbe |  |  | 3 | 11 |
| HSSU21 |  |  | Bbe |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 11 |
| HSSU22 |  |  |  |  |  |  |  |  |  | Bbo |  |  |  |  |  |  |  | 1 | 11 |
| HSSU23 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Bbo |  |  | 1 | 11 |
| HSSU24 |  |  | Bin |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 10 |
| HSSU25 |  |  |  |  | Bin |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 10 |
| HSSU26 |  |  |  |  |  |  |  | Bin |  |  |  |  |  |  |  |  |  | 1 | 10 |
| HSSU27 |  | Bin |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 10 |
| HSSU28 |  |  |  |  |  |  |  | Bsa |  |  |  |  |  |  |  |  |  | 1 | 10 |
| HSSU29 |  |  |  |  |  |  |  | Bin |  |  |  |  |  |  |  |  |  | 2 | 10 |
| HSSU30 |  |  |  |  |  |  |  | Bsa |  |  |  |  |  |  |  |  |  | 1 | 10 |
| HSSU31 |  |  |  |  |  |  |  | Rno |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| **HSSU32** |  |  |  |  | **Rni, RR2** |  |  |  |  |  |  |  |  |  |  |  |  | **2** | **12 (*P. wakefieldiae*)** |
| **HSSU33** |  |  |  |  |  |  |  | **Rno, RR2** |  |  |  |  |  |  |  |  |  | **7** | **12 (*P. wakefieldiae*)** |
| HSSU34 |  |  |  |  | Rni |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 12 (*P. wakefieldiae*) |
| HSSU35 |  |  |  |  | Rni |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| HSSU36 |  |  |  |  |  |  | Rsa |  |  |  |  |  |  |  |  |  |  | 2 | 12 (*P. wakefieldiae*) |
| HSSU37 | Rex |  |  | Rex |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 12 (*P. wakefieldiae*) |
| HSSU38 |  |  |  |  |  |  | Rex |  |  |  |  |  |  |  |  |  |  | 2 | 12 (*P. wakefieldiae*) |
| HSSU39 |  |  |  |  |  |  | Rsa |  |  |  |  |  |  |  |  |  |  | 5 | 12 (*P. wakefieldiae*) |
| HSSU40 |  |  |  |  |  |  |  | Rsa |  |  |  |  |  |  |  |  |  | 1 | 12 (*P. wakefieldiae*) |
| HSSU41 |  |  |  |  |  |  |  |  |  | RR2 |  |  |  |  | RR2 |  |  | 2 | 12 (*P. wakefieldiae*) |
| HSSU42 |  |  | RR3 | RR3 |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 12 (*P. wakefieldiae*) |
| **HSSU43** |  |  |  | **RR3** |  | **RR3, RR2** |  |  |  |  |  |  |  |  |  | **RR2** |  | **4** | **12 (*P. wakefieldiae*)** |