

**Inference of Japanese encephalitis virus ecological and evolutionary dynamics from passive and active virus surveillance**

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Short title: Ecological and Evolutionary Dynamics of JEV

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## Supplemental Analyses

### *Phylogenetic estimation of JEV ancestral host type based on surveillance data*

JEV is likely maintained in a transmission cycle between mosquitoes, swine, and to some extent, wild aquatic birds (Scherer et al., 1959). Mosquitoes serve as the vector for disease transmission and swine are implicated as important virus amplification hosts associated with human outbreaks (Mackenzie, Gubler & Peterson, 2004). Wild aquatic birds are posited to be maintenance reservoirs of the virus, although scarce JEV surveillance data in this population limits the clarification and elaboration of their role in the disease ecology. Humans and other mammals infected are considered dead-end hosts and are not believed to contribute significantly to the transmission cycle (Mackenzie, Gubler & Peterson, 2004). To determine whether the available JEV surveillance information is sufficient to capture the simple vector-host transmission patterns, we conducted an ancestral host reconstruction to see if our model could estimate the correct host ancestors in light of known sampling limitations.

A non-reversible discrete phylogenetic model was conducted on the full dataset to estimate the ancestral host states of GI and GIII. In describing the host ranges sampled in JEV, Han et al. (2014) hypothesized that the narrow set of host species infected with GI isolates compared to GIII may imply differences in transmission cycles and transmission frequencies between the genotypes. However, descriptive stratifications of our dataset suggest that the differences in sampled host species between GI and GIII are more attributable to sampling bias than to viral host preference. To guard against misinterpretation of such biases, isolates in our dataset were classified as mosquito, human/mammals, unidentified/other (non-human or non-mammals), or the previously defined ancestral population (Z). Host states at each node were

estimated based on tip classification and mapped onto the MCC tree to infer host transmission history.

We assume that a mosquito ancestor produced on the phylogeny is indicative of the correct vector transmission host and that surveillance is sufficient to capture this element. If a human/mammal ancestor was estimated instead, this may suggest insufficient sampling of the correct ancestor and/or that the virus was likely circulating in the region undetected for some time. These assumptions aid in interpretation of results, but may not acknowledge important and detailed aspects of the JEV transmission cycle. This includes the role of swine as amplification hosts and wild aquatic birds as maintenance hosts due to the paucity and timing of disease sampling.

The results from this analysis suggest that most of the GI-b ancestors were estimated to be mosquito vectors (Fig. S8). There were several GI-b clusters which were estimated to be all human/mammal ancestors although these were primarily sampled from the same country and year. GI-a, the smaller of the two GI lineages described, consisted of mostly human/mammal ancestors and may indicate poor surveillance of this lineage compared to GI-b, which has supplanted GIII as the most prevalent and widespread genotype causing infections and is better monitored. GIII consists of a larger proportion of estimated human/mammal ancestors than GI, and along with the long branches preceding many isolates, suggests surveillance of this genotype was haphazard.

**Table S1.** GenBank accession numbers, virus genotype, year of isolation, host species, country and province (for mainland China) of isolation, and assigned geographic state and host codes.

| ACCESSION | GENOTYPE | YEAR | COUNTRY | PROVINCE | HOST  | GEOGRAPHIC STATE CODE | HOST CODE    | TAXA NAME                 |
|-----------|----------|------|---------|----------|-------|-----------------------|--------------|---------------------------|
| AB051292  | I        | 1994 | Japan   |          | Swine | Japan                 | Human/Mammal | AB051292/Swine/Japan/1994 |
| AB112704  | I        | 2002 | Japan   |          | Swine | Japan                 | Human/Mammal | AB112704/Swine/Japan/2002 |
| AB112705  | I        | 2002 | Japan   |          | Swine | Japan                 | Human/Mammal | AB112705/Swine/Japan/2002 |
| AB112707  | I        | 2002 | Japan   |          | Swine | Japan                 | Human/Mammal | AB112707/Swine/Japan/2002 |
| AB112709  | I        | 2002 | Japan   |          | Swine | Japan                 | Human/Mammal | AB112709/Swine/Japan/2002 |
| AB174837  | I        | 1998 | Japan   |          | Swine | Japan                 | Human/Mammal | AB174837/Swine/Japan/1998 |
| AB174838  | I        | 2000 | Japan   |          | Swine | Japan                 | Human/Mammal | AB174838/Swine/Japan/2000 |
| AB231462  | I        | 2004 | Japan   |          | Swine | Japan                 | Human/Mammal | AB231462/Swine/Japan/2004 |
| AB231463  | I        | 2004 | Japan   |          | Swine | Japan                 | Human/Mammal | AB231463/Swine/Japan/2004 |
| AB231464  | I        | 2004 | Japan   |          | Swine | Japan                 | Human/Mammal | AB231464/Swine/Japan/2004 |
| AB231465  | I        | 2002 | Japan   |          | Swine | Japan                 | Human/Mammal | AB231465/Swine/Japan/2002 |
| AB237171  | I        | 1994 | Japan   |          | Swine | Japan                 | Human/Mammal | AB237171/Swine/Japan/1994 |
| AB238693  | I        | 2003 | Japan   |          | Swine | Japan                 | Human/Mammal | AB238693/Swine/Japan/2003 |
| AB306941  | I        | 1998 | Japan   |          | Boar  | Japan                 | Human/Mammal | AB306941/Boar/Japan/1998  |
| AB47166   | I        | 2008 | Japan   |          | Swine | Japan                 | Human/Mammal | AB47166/Swine/Japan/2008  |
| AB471667  | I        | 2008 | Japan   |          | Swine | Japan                 | Human/Mammal | AB471667/Swine/Japan/2008 |
| AB471669  | I        | 2008 | Japan   |          | Swine | Japan                 | Human/Mammal | AB471669/Swine/Japan/2008 |
| AB481224  | I        | 2008 | Japan   |          | Boar  | Japan                 | Human/Mammal | AB481224/Boar/Japan/2008  |
| AB538601  | I        | 2005 | Japan   |          | Culex | Japan                 | Mosquito     | AB538601/Culex/Japan/2005 |
| AB538603  | I        | 2005 | Japan   |          | Culex | Japan                 | Mosquito     | AB538603/Culex/Japan/2005 |
| AB538604  | I        | 2005 | Japan   |          | Culex | Japan                 | Mosquito     | AB538604/Culex/Japan/2005 |
| AB538608  | I        | 2005 | Japan   |          | Culex | Japan                 | Mosquito     | AB538608/Culex/Japan/2005 |
| AB538609  | I        | 2005 | Japan   |          | Culex | Japan                 | Mosquito     | AB538609/Culex/Japan/2005 |
| AB538610  | I        | 2005 | Japan   |          | Culex | Japan                 | Mosquito     | AB538610/Culex/Japan/2005 |
| AB538611  | I        | 2005 | Japan   |          | Culex | Japan                 | Mosquito     | AB538611/Culex/Japan/2005 |
| AB538612  | I        | 2005 | Japan   |          | Culex | Japan                 | Mosquito     | AB538612/Culex/Japan/2005 |
| AB538613  | I        | 2005 | Japan   |          | Culex | Japan                 | Mosquito     | AB538613/Culex/Japan/2005 |
| AB538615  | I        | 2005 | Japan   |          | Culex | Japan                 | Mosquito     | AB538615/Culex/Japan/2005 |
| AB538617  | I        | 2005 | Japan   |          | Culex | Japan                 | Mosquito     | AB538617/Culex/Japan/2005 |
| AB538619  | I        | 2005 | Japan   |          | Culex | Japan                 | Mosquito     | AB538619/Culex/Japan/2005 |
| AB53866   | I        | 2007 | Japan   |          | Culex | Japan                 | Mosquito     | AB53866/Culex/Japan/2007  |
| AB538661  | I        | 2007 | Japan   |          | Culex | Japan                 | Mosquito     | AB538661/Culex/Japan/2007 |
| AB538665  | I        | 2007 | Japan   |          | Culex | Japan                 | Mosquito     | AB538665/Culex/Japan/2007 |
| AB538669  | I        | 2007 | Japan   |          | Culex | Japan                 | Mosquito     | AB538669/Culex/Japan/2007 |
| AB538671  | I        | 2007 | Japan   |          | Culex | Japan                 | Mosquito     | AB538671/Culex/Japan/2007 |
| AB538700  | I        | 2008 | Japan   |          | Culex | Japan                 | Mosquito     | AB538700/Culex/Japan/2008 |
| AB538701  | I        | 2008 | Japan   |          | Culex | Japan                 | Mosquito     | AB538701/Culex/Japan/2008 |
| AB538703  | I        | 2008 | Japan   |          | Culex | Japan                 | Mosquito     | AB538703/Culex/Japan/2008 |
| AB538708  | I        | 2008 | Japan   |          | Culex | Japan                 | Mosquito     | AB538708/Culex/Japan/2008 |

|          |   |      |          |          |          |                |              |                                    |
|----------|---|------|----------|----------|----------|----------------|--------------|------------------------------------|
| AB538722 | I | 2008 | Japan    |          | Culex    | Japan          | Mosquito     | AB538722/Culex/Japan/2008          |
| AB538723 | I | 2008 | Japan    |          | Culex    | Japan          | Mosquito     | AB538723/Culex/Japan/2008          |
| AB538729 | I | 2008 | Japan    |          | Culex    | Japan          | Mosquito     | AB538729/Culex/Japan/2008          |
| AB538735 | I | 2008 | Japan    |          | Culex    | Japan          | Mosquito     | AB538735/Culex/Japan/2008          |
| AB538737 | I | 2008 | Japan    |          | Culex    | Japan          | Mosquito     | AB538737/Culex/Japan/2008          |
| AB538739 | I | 2008 | Japan    |          | Culex    | Japan          | Mosquito     | AB538739/Culex/Japan/2008          |
| AB538823 | I | 2005 | Japan    |          | Swine    | Japan          | Human/Mammal | AB538823/Swine/Japan/2005          |
| AB538825 | I | 2007 | Japan    |          | Swine    | Japan          | Human/Mammal | AB538825/Swine/Japan/2007          |
| AB538827 | I | 2007 | Japan    |          | Swine    | Japan          | Human/Mammal | AB538827/Swine/Japan/2007          |
| AB538831 | I | 2007 | Japan    |          | Swine    | Japan          | Human/Mammal | AB538831/Swine/Japan/2007          |
| AB538832 | I | 2008 | Japan    |          | Swine    | Japan          | Human/Mammal | AB538832/Swine/Japan/2008          |
| AB543739 | I | 2009 | Japan    |          | Culex    | Japan          | Mosquito     | AB543739/Culex/Japan/2009          |
| AB543740 | I | 2009 | Japan    |          | Culex    | Japan          | Mosquito     | AB543740/Culex/Japan/2009          |
| AB594829 | I | 2003 | Japan    |          | Equus    | Japan          | Human/Mammal | AB594829/Equus/Japan/2003          |
| AY243835 | I | 2001 | China    | Shanghai | Culex    | South China    | Mosquito     | AY243835/Culex/China_Shanghai/2001 |
| AY316157 | I | 1999 | Korea    |          | Swine    | South Korea    | Human/Mammal | AY316157/Swine/Korea/1999          |
| AY376464 | I | 2001 | Vietnam  |          | Swine    | Southeast Asia | Human/Mammal | AY376464/Swine/Vietnam/2001        |
| AY376465 | I | 2002 | Vietnam  |          | Swine    | Southeast Asia | Human/Mammal | AY376465/Swine/Vietnam/2002        |
| AY376466 | I | 2002 | Vietnam  |          | Mosquito | Southeast Asia | Mosquito     | AY376466/Mosquito/Vietnam/2002     |
| AY376467 | I | 2002 | Vietnam  |          | Mosquito | Southeast Asia | Mosquito     | AY376467/Mosquito/Vietnam/2002     |
| AY376468 | I | 2002 | Vietnam  |          | Mosquito | Southeast Asia | Mosquito     | AY376468/Mosquito/Vietnam/2002     |
| AY377577 | I | 2002 | Japan    |          | Mosquito | Japan          | Mosquito     | AY377577/Mosquito/Japan/2002       |
| AY377578 | I | 1995 | Japan    |          | Swine    | Japan          | Human/Mammal | AY377578/Swine/Japan/1995          |
| AY377579 | I | 1995 | Japan    |          | Swine    | Japan          | Human/Mammal | AY377579/Swine/Japan/1995          |
| AY555758 | I | 2001 | China    | Shanghai | Culex    | South China    | Mosquito     | AY555758/Culex/China_Shanghai/2001 |
| AY555759 | I | 2001 | China    | Shanghai | Culex    | South China    | Mosquito     | AY555759/Culex/China_Shanghai/2001 |
| AY555760 | I | 2001 | China    | Shanghai | Culex    | South China    | Mosquito     | AY555760/Culex/China_Shanghai/2001 |
| AY555761 | I | 2001 | China    | Shanghai | Culex    | South China    | Mosquito     | AY555761/Culex/China_Shanghai/2001 |
| D45362   | I | 1992 | Thailand |          | Culex    | Southeast Asia | Mosquito     | D45362/Culex/Thailand/1992         |
| D45363   | I | 1993 | Thailand |          | Culex    | Southeast Asia | Mosquito     | D45363/Culex/Thailand/1993         |
| DQ084229 | I | 2004 | Thailand |          | Mosquito | Southeast Asia | Mosquito     | DQ084229/Mosquito/Thailand/2004    |
| DQ087972 | I | 2004 | Thailand |          | Swine    | Southeast Asia | Human/Mammal | DQ087972/Swine/Thailand/2004       |
| DQ087974 | I | 2004 | Thailand |          | Swine    | Southeast Asia | Human/Mammal | DQ087974/Swine/Thailand/2004       |
| DQ087975 | I | 2003 | Thailand |          | Mosquito | Southeast Asia | Mosquito     | DQ087975/Mosquito/Thailand/2003    |
| DQ111784 | I | 2004 | Thailand |          | Swine    | Southeast Asia | Human/Mammal | DQ111784/Swine/Thailand/2004       |
| DQ111785 | I | 2004 | Thailand |          | Swine    | Southeast Asia | Human/Mammal | DQ111785/Swine/Thailand/2004       |
| DQ111786 | I | 2004 | Thailand |          | Swine    | Southeast Asia | Human/Mammal | DQ111786/Swine/Thailand/2004       |
| DQ111787 | I | 2004 | Thailand |          | Swine    | Southeast Asia | Human/Mammal | DQ111787/Swine/Thailand/2004       |
| DQ111788 | I | 2004 | Thailand |          | Swine    | Southeast Asia | Human/Mammal | DQ111788/Swine/Thailand/2004       |
| DQ238600 | I | 2005 | Thailand |          | Swine    | Southeast Asia | Human/Mammal | DQ238600/Swine/Thailand/2005       |
| DQ238601 | I | 2005 | Thailand |          | Swine    | Southeast Asia | Human/Mammal | DQ238601/Swine/Thailand/2005       |
| DQ238602 | I | 2005 | Thailand |          | Swine    | Southeast Asia | Human/Mammal | DQ238602/Swine/Thailand/2005       |



|          |   |      |           |          |           |                 |                    |                                       |
|----------|---|------|-----------|----------|-----------|-----------------|--------------------|---------------------------------------|
| DQ343290 | I | 2005 | Thailand  |          | Swine     | Southeast Asia  | Human/Mammal       | DQ343290/Swine/Thailand/2005          |
| DQ355369 | I | 2002 | Japan     |          | Swine     | Japan           | Human/Mammal       | DQ355369/Swine/Japan/2002             |
| DQ355370 | I | 2003 | Japan     |          | Swine     | Japan           | Human/Mammal       | DQ355370/Swine/Japan/2003             |
| DQ355372 | I | 2003 | Japan     |          | Swine     | Japan           | Human/Mammal       | DQ355372/Swine/Japan/2003             |
| DQ404085 | I | 2002 | China     | Liaoning | Culex     | North Mid China | Mosquito           | DQ404085/Culex/China_Liaoning/2002    |
| DQ404088 | I | 2004 | China     | Henan    | Culex     | North Mid China | Mosquito           | DQ404088/Culex/China_Henan/2004       |
| DQ404089 | I | 2004 | China     | Henan    | Culex     | North Mid China | Mosquito           | DQ404089/Culex/China_Henan/2004       |
| DQ404092 | I | 2004 | China     | Sichuan  | Armigeres | South Mid China | Mosquito           | DQ404092/Armigeres/China_Sichuan/2004 |
| DQ404094 | I | 2004 | China     | Sichuan  | Culex     | South Mid China | Mosquito           | DQ404094/Culex/China_Sichuan/2004     |
| DQ404098 | I | 2003 | China     | Shanghai | Culex     | South China     | Mosquito           | DQ404098/Culex/China_Shanghai/2003    |
| DQ404100 | I | 2003 | China     | Shanghai | Culex     | South China     | Mosquito           | DQ404100/Culex/China_Shanghai/2003    |
| DQ404101 | I | 2003 | China     | Shanghai | Culex     | South China     | Mosquito           | DQ404101/Culex/China_Shanghai/2003    |
| DQ404102 | I | 2003 | China     | Shanghai | Culex     | South China     | Mosquito           | DQ404102/Culex/China_Shanghai/2003    |
| DQ404103 | I | 2003 | China     | Shanghai | Culex     | South China     | Mosquito           | DQ404103/Culex/China_Shanghai/2003    |
| DQ404104 | I | 2003 | China     | Shanghai | Culex     | South China     | Mosquito           | DQ404104/Culex/China_Shanghai/2003    |
| DQ404108 | I | 2005 | China     | Shanghai | Culex     | South China     | Mosquito           | DQ404108/Culex/China_Shanghai/2005    |
| DQ404129 | I | 1982 | China     | Yunnan   | Culex     | South Mid China | Mosquito           | DQ404129/Culex/China_Yunnan/1982      |
| DQ404130 | I | 1983 | China     | Yunnan   | Shiraki   | South Mid China | Mosquito           | DQ404130/Shiraki/China_Yunnan/1983    |
| DQ404132 | I | 1985 | China     | Yunnan   | Culex     | South Mid China | Mosquito           | DQ404132/Culex/China_Yunnan/1985      |
| DQ404133 | I | 1986 | China     | Yunnan   | Culex     | South Mid China | Mosquito           | DQ404133/Culex/China_Yunnan/1986      |
| DQ404134 | I | 1983 | China     | Yunnan   | IU        | South Mid China | Unidentified/Other | DQ404134/IU/China_Yunnan/1983         |
| EF434785 | I | 2000 | Australia |          | Swine     | Singleton*      | Singleton*         | EF434785/Swine/Australia/2000         |
| EU429297 | I | 2007 | China     | Shanghai | Culex     | South China     | Mosquito           | EU429297/Culex/China_Shanghai/2007    |
| EU693899 | I | 2007 | China     | Zhejiang | Culex     | South China     | Mosquito           | EU693899/Culex/China_Zhejiang/2007    |
| EU880214 | I | 2009 | China     | Zhejiang | Culex     | South China     | Mosquito           | EU880214/Culex/China_Zhejiang/2009    |
| F499813  | I | 2010 | China     | Taiwan   | Mosquito  | Taiwan          | Mosquito           | F499813/Mosquito/China_Taiwan/2010    |
| FJ161968 | I | 2005 | China     | Guangxi  | Culex     | South China     | Mosquito           | FJ161968/Culex/China_Guangxi/2005     |
| FJ161969 | I | 2005 | China     | Guangxi  | Culex     | South China     | Mosquito           | FJ161969/Culex/China_Guangxi/2005     |
| FJ179364 | I | 2008 | China     | Zhejiang | Swine     | South China     | Human/Mammal       | FJ179364/Swine/China_Zhejiang/2008    |
| FJ185148 | I | 2007 | Japan     |          | Mosquito  | Japan           | Mosquito           | FJ185148/Mosquito/Japan/2007          |
| FJ185151 | I | 2004 | Japan     |          | Mosquito  | Japan           | Mosquito           | FJ185151/Mosquito/Japan/2004          |
| FJ185152 | I | 2004 | Japan     |          | Mosquito  | Japan           | Mosquito           | FJ185152/Mosquito/Japan/2004          |
| FJ185153 | I | 2005 | Vietnam   |          | Mosquito  | Southeast Asia  | Mosquito           | FJ185153/Mosquito/Vietnam/2005        |
| FJ185155 | I | 2005 | Vietnam   |          | Mosquito  | Southeast Asia  | Mosquito           | FJ185155/Mosquito/Vietnam/2005        |
| FJ495189 | I | 2007 | China     | Henan    | Swine     | North Mid China | Human/Mammal       | FJ495189/Swine/China_Henan/2007       |
| FJ938216 | I | 1994 | Korea     |          | Culex     | South Korea     | Mosquito           | FJ938216/Culex/Korea/1994             |
| FJ938218 | I | 1995 | Korea     |          | Mosquito  | South Korea     | Mosquito           | FJ938218/Mosquito/Korea/1995          |
| FJ938219 | I | 1996 | Korea     |          | Mosquito  | South Korea     | Mosquito           | FJ938219/Mosquito/Korea/1996          |
| FJ938222 | I | 2001 | Korea     |          | Mosquito  | South Korea     | Mosquito           | FJ938222/Mosquito/Korea/2001          |
| FJ938223 | I | 2005 | Korea     |          | Mosquito  | South Korea     | Mosquito           | FJ938223/Mosquito/Korea/2005          |
| FJ938230 | I | 1993 | Korea     |          | Mosquito  | South Korea     | Mosquito           | FJ938230/Mosquito/Korea/1993          |
| FJ943471 | I | 1995 | Japan     |          | Swine     | Japan           | Human/Mammal       | FJ943471/Swine/Japan/1995             |

|          |   |      |          |         |          |                 |              |                                      |
|----------|---|------|----------|---------|----------|-----------------|--------------|--------------------------------------|
| FJ943472 | I | 1997 | Japan    |         | Swine    | Japan           | Human/Mammal | FJ943472/Swine/Japan/1997            |
| FJ943473 | I | 1999 | Japan    |         | Swine    | Japan           | Human/Mammal | FJ943473/Swine/Japan/1999            |
| FJ943474 | I | 1999 | Japan    |         | Swine    | Japan           | Human/Mammal | FJ943474/Swine/Japan/1999            |
| FJ943475 | I | 2003 | Japan    |         | Swine    | Japan           | Human/Mammal | FJ943475/Swine/Japan/2003            |
| FJ943476 | I | 2003 | Japan    |         | Swine    | Japan           | Human/Mammal | FJ943476/Swine/Japan/2003            |
| FJ943477 | I | 2003 | Japan    |         | Swine    | Japan           | Human/Mammal | FJ943477/Swine/Japan/2003            |
| FJ943478 | I | 2003 | Japan    |         | Swine    | Japan           | Human/Mammal | FJ943478/Swine/Japan/2003            |
| FJ943479 | I | 2003 | Japan    |         | Swine    | Japan           | Human/Mammal | FJ943479/Swine/Japan/2003            |
| FJ943480 | I | 2005 | Japan    |         | Swine    | Japan           | Human/Mammal | FJ943480/Swine/Japan/2005            |
| FJ943481 | I | 2006 | Japan    |         | Swine    | Japan           | Human/Mammal | FJ943481/Swine/Japan/2006            |
| FJ943482 | I | 2006 | Japan    |         | Swine    | Japan           | Human/Mammal | FJ943482/Swine/Japan/2006            |
| FJ943486 | I | 2007 | Japan    |         | Swine    | Japan           | Human/Mammal | FJ943486/Swine/Japan/2007            |
| FJ943487 | I | 2007 | Japan    |         | Swine    | Japan           | Human/Mammal | FJ943487/Swine/Japan/2007            |
| FJ943489 | I | 2008 | Japan    |         | Swine    | Japan           | Human/Mammal | FJ943489/Swine/Japan/2008            |
| FJ943494 | I | 2008 | Japan    |         | Swine    | Japan           | Human/Mammal | FJ943494/Swine/Japan/2008            |
| GQ260633 | I | 2008 | China    | Taiwan  | Culex    | Taiwan          | Mosquito     | GQ260633/Culex/China_Taiwan/2008     |
| GQ260635 | I | 2008 | China    | Taiwan  | Culex    | Taiwan          | Mosquito     | GQ260635/Culex/China_Taiwan/2008     |
| GQ415355 | I | 1991 | Korea    |         | Mosquito | South Korea     | Mosquito     | GQ415355/Mosquito/Korea/1991         |
| GQ902058 | I | 1982 | Thailand |         | Swine    | Southeast Asia  | Human/Mammal | GQ902058/Swine/Thailand/1982         |
| GQ902059 | I | 1982 | Thailand |         | Human    | Southeast Asia  | Human/Mammal | GQ902059/Human/Thailand/1982         |
| GQ902060 | I | 1985 | Thailand |         | Mosquito | Southeast Asia  | Mosquito     | GQ902060/Mosquito/Thailand/1985      |
| GQ902061 | I | 1985 | Thailand |         | Swine    | Southeast Asia  | Human/Mammal | GQ902061/Swine/Thailand/1985         |
| GQ902062 | I | 1985 | Thailand |         | Human    | Southeast Asia  | Human/Mammal | GQ902062/Human/Thailand/1985         |
| GU108335 | I | 2009 | Japan    |         | Swine    | Japan           | Human/Mammal | GU108335/Swine/Japan/2009            |
| GU187972 | I | 2009 | China    | Sichuan | Mosquito | South Mid China | Mosquito     | GU187972/Mosquito/China_Sichuan/2009 |
| GU205163 | I | 2007 | China    | Guangxi | Human    | South China     | Human/Mammal | GU205163/Human/China_Guangxi/2007    |
| HM204528 | I | 2009 | China    | Yunnan  | Human    | South Mid China | Human/Mammal | HM204528/Human/China_Yunnan/2009     |
| HM204529 | I | 2009 | China    | Yunnan  | Human    | South Mid China | Human/Mammal | HM204529/Human/China_Yunnan/2009     |
| HM204530 | I | 2009 | China    | Shanxi  | Human    | North China     | Human/Mammal | HM204530/Human/China_Shanxi/2009     |
| HM228921 | I | 1990 | Vietnam  |         | Human    | Southeast Asia  | Human/Mammal | HM228921/Human/Vietnam/1990          |
| HM228922 | I | 2007 | Vietnam  |         | Culex    | Southeast Asia  | Mosquito     | HM228922/Culex/Vietnam/2007          |
| HM228923 | I | 2007 | Vietnam  |         | Culex    | Southeast Asia  | Mosquito     | HM228923/Culex/Vietnam/2007          |
| HM366552 | I | 2006 | China    | GuiZhou | Human    | South China     | Human/Mammal | HM366552/Human/China_GuiZhou/2006    |
| HQ009265 | I | 2005 | Vietnam  |         | Swine    | Southeast Asia  | Human/Mammal | HQ009265/Swine/Vietnam/2005          |
| HQ009266 | I | 2005 | Vietnam  |         | Swine    | Southeast Asia  | Human/Mammal | HQ009266/Swine/Vietnam/2005          |
| HQ652538 | I | 2009 | China    | Tibet   | Culex    | Singleton*      | Singleton*   | HQ652538/Culex/China_Tibet/2009      |
| HQ893545 | I | 2009 | China    | Shanxi  | Swine    | North China     | Human/Mammal | HQ893545/Swine/China_Shanxi/2009     |
| HQ893551 | I | 2009 | China    | Shanxi  | Swine    | North China     | Human/Mammal | HQ893551/Swine/China_Shanxi/2009     |
| JF499788 | I | 2009 | China    | Taiwan  | Mosquito | Taiwan          | Mosquito     | JF499788/Mosquito/China_Taiwan/2009  |
| JF499790 | I | 2009 | China    | Taiwan  | Mosquito | Taiwan          | Mosquito     | JF499790/Mosquito/China_Taiwan/2009  |
| JF499794 | I | 2009 | China    | Taiwan  | Mosquito | Taiwan          | Mosquito     | JF499794/Mosquito/China_Taiwan/2009  |
| JF499798 | I | 2009 | China    | Taiwan  | Mosquito | Taiwan          | Mosquito     | JF499798/Mosquito/China_Taiwan/2009  |

|          |   |      |       |          |            |                 |          |                                       |
|----------|---|------|-------|----------|------------|-----------------|----------|---------------------------------------|
| JF499800 | I | 2009 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499800/Mosquito/China_Taiwan/2009   |
| JF499802 | I | 2009 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499802/Mosquito/China_Taiwan/2009   |
| JF499804 | I | 2009 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499804/Mosquito/China_Taiwan/2009   |
| JF499805 | I | 2009 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499805/Mosquito/China_Taiwan/2009   |
| JF499806 | I | 2009 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499806/Mosquito/China_Taiwan/2009   |
| JF499807 | I | 2009 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499807/Mosquito/China_Taiwan/2009   |
| JF499809 | I | 2009 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499809/Mosquito/China_Taiwan/2009   |
| JF499811 | I | 2010 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499811/Mosquito/China_Taiwan/2010   |
| JF499812 | I | 2010 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499812/Mosquito/China_Taiwan/2010   |
| JF499814 | I | 2010 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499814/Mosquito/China_Taiwan/2010   |
| JF499816 | I | 2010 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499816/Mosquito/China_Taiwan/2010   |
| JF499817 | I | 2010 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499817/Mosquito/China_Taiwan/2010   |
| JF499818 | I | 2010 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499818/Mosquito/China_Taiwan/2010   |
| JF499819 | I | 2010 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499819/Mosquito/China_Taiwan/2010   |
| JF499820 | I | 2010 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499820/Mosquito/China_Taiwan/2010   |
| JF499822 | I | 2010 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499822/Mosquito/China_Taiwan/2010   |
| JF499823 | I | 2010 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499823/Mosquito/China_Taiwan/2010   |
| JF499824 | I | 2010 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499824/Mosquito/China_Taiwan/2010   |
| JF499825 | I | 2010 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499825/Mosquito/China_Taiwan/2010   |
| JF499826 | I | 2010 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499826/Mosquito/China_Taiwan/2010   |
| JF499827 | I | 2010 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JF499827/Mosquito/China_Taiwan/2010   |
| JF706267 | I | 2009 | China | Yunnan   | Culex      | South Mid China | Mosquito | JF706267/Culex/China_Yunnan/2009      |
| JF706268 | I | 2009 | China | Yunnan   | Culex      | South Mid China | Mosquito | JF706268/Culex/China_Yunnan/2009      |
| JF706270 | I | 2006 | China | Guangxi  | Culex      | South China     | Mosquito | JF706270/Culex/China_Guangxi/2006     |
| JF706271 | I | 2006 | China | Guangxi  | Culex      | South China     | Mosquito | JF706271/Culex/China_Guangxi/2006     |
| JF706274 | I | 2008 | China | Gansu    | Culex      | North China     | Mosquito | JF706274/Culex/China_Gansu/2008       |
| JF706277 | I | 2006 | China | Henan    | Armigeres  | North Mid China | Mosquito | JF706277/Armigeres/China_Henan/2006   |
| JF706278 | I | 2002 | China | Liaoning | Culex      | North Mid China | Mosquito | JF706278/Culex/China_Liaoning/2002    |
| JF706279 | I | 1977 | China | Yunnan   | Culex      | South Mid China | Mosquito | JF706279/Culex/China_Yunnan/1977      |
| JF706281 | I | 2005 | China | Yunnan   | Culex      | South Mid China | Mosquito | JF706281/Culex/China_Yunnan/2005      |
| JF706282 | I | 1983 | China | Yunnan   | Lasiohelea | South Mid China | Mosquito | JF706282/Lasiohelea/China_Yunnan/1983 |
| JF706286 | I | 2008 | China | Shandong | Culex      | North Mid China | Mosquito | JF706286/Culex/China_Shandong/2008    |
| JN216865 | I | 2009 | China | Zhejiang | Mosquito   | South China     | Mosquito | JN216865/Mosquito/Chian_Zhejiang/2009 |
| JN216866 | I | 2009 | China | Zhejiang | Mosquito   | South China     | Mosquito | JN216866/Mosquito/China_Zhejiang/2009 |
| JN216867 | I | 2010 | China | Zhejiang | Mosquito   | South China     | Mosquito | JN216867/Mosquito/Chian_Zhejiang/2010 |
| JN216868 | I | 2010 | China | Zhejiang | Mosquito   | South China     | Mosquito | JN216868/Mosquito/China_Zhejiang/2010 |
| JN216869 | I | 2010 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JN216869/Mosquito/China_Taiwan/2010   |
| JN216870 | I | 2010 | China | Taiwan   | Mosquito   | Taiwan          | Mosquito | JN216870/Mosquito/China_Taiwan/2010   |
| JN38183  | I | 2006 | China | Henan    | Culex      | North Mid China | Mosquito | JN38183/Culex/China_Henan/2006        |
| JN381831 | I | 2004 | China | Henan    | Culex      | North Mid China | Mosquito | JN381831/Culex/China_Henan/2004       |
| JN381832 | I | 2005 | China | Guangxi  | Culex      | South China     | Mosquito | JN381832/Culex/China_Guangxi/2005     |
| JN381833 | I | 2008 | China | Gansu    | Culex      | North China     | Mosquito | JN381833/Culex/China_Gansu/2008       |

|          |   |      |         |           |          |                 |              |  |
|----------|---|------|---------|-----------|----------|-----------------|--------------|--|
| JN381834 | I | 1982 | China   | Yunnan    | Mosquito | South Mid China | Mosquito     | JN381834/Mosquito/China_Yunnan/1982    |
| JN381835 | I | 2005 | China   | Guangxi   | Culex    | South China     | Mosquito     | JN381835/Culex/China_Guangxi/2005      |
| JN381836 | I | 2006 | China   | Yunnan    | Mosquito | South Mid China | Mosquito     | JN381836/Mosquito/China_Yunnan/2006    |
| JN381837 | I | 2006 | China   | Henan     | Culex    | North Mid China | Mosquito     | JN381837/Culex/China_Henan/2006        |
| JN381838 | I | 2004 | China   | Sichuan   | Culex    | South Mid China | Mosquito     | JN381838/Culex/China_Sichuan/2004      |
| JN381839 | I | 2004 | China   | Sichuan   | Culex    | South Mid China | Mosquito     | JN381839/Culex/China_Sichuan/2004      |
| JN381840 | I | 2008 | China   | Gansu     | Culex    | North China     | Mosquito     | JN381840/Culex/China_Gansu/2008        |
| JN381841 | I | 2004 | China   | Henan     | Culex    | North Mid China | Mosquito     | JN381841/Culex/China_Henan/2004        |
| JN381842 | I | 2008 | China   | Gansu     | Culex    | North China     | Mosquito     | JN381842/Culex/China_Gansu/2008        |
| JN381843 | I | 2007 | China   | Gansu     | Culex    | North China     | Mosquito     | JN381843/Culex/China_Gansu/2007        |
| JN381844 | I | 2008 | China   | Gansu     | Culex    | North China     | Mosquito     | JN381844/Culex/China_Gansu/2008        |
| JN381845 | I | 2008 | China   | Gansu     | Culex    | North China     | Mosquito     | JN381845/Culex/China_Gansu/2008        |
| JN381846 | I | 2003 | China   | Shanghai  | Culex    | South China     | Mosquito     | JN381846/Culex/China_Shanghai/2003     |
| JN381847 | I | 2003 | China   | Shanghai  | Culex    | South China     | Mosquito     | JN381847/Culex/China_Shanghai/2003     |
| JN381848 | I | 2001 | China   | Shanghai  | Culex    | South China     | Mosquito     | JN381848/Culex/China_Shanghai/2001     |
| JN381849 | I | 2007 | China   | Liaoning  | Culex    | North Mid China | Mosquito     | JN381849/Culex/China_Liaoning/2007     |
| JN381850 | I | 2001 | China   | Shanghai  | Culex    | South China     | Mosquito     | JN381850/Culex/China_Shanghai/2001     |
| JN381851 | I | 1979 | China   | Yunnan    | Culex    | South Mid China | Mosquito     | JN381851/Culex/China_Yunnan/1979       |
| JN381852 | I | 2005 | China   | Yunnan    | Culex    | South Mid China | Mosquito     | JN381852/Culex/China_Yunnan/2005       |
| JN574430 | I | 2005 | Vietnam |           | Swine    | Southeast Asia  | Human/Mammal | JN574430/Swine/Vietnam/2005            |
| JN574431 | I | 2005 | Vietnam |           | Culex    | Southeast Asia  | Mosquito     | JN574431/Culex/Vietnam/2005            |
| JN574432 | I | 2005 | Vietnam |           | Culex    | Southeast Asia  | Mosquito     | JN574432/Culex/Vietnam/2005            |
| JN587259 | I | 2010 | Korea   |           | Culex    | South Korea     | Mosquito     | JN587259/Culex/Korea/2010              |
| JN587260 | I | 2010 | Korea   |           | Culex    | South Korea     | Mosquito     | JN587260/Culex/Korea/2010              |
| JN587261 | I | 2008 | Korea   |           | Culex    | South Korea     | Mosquito     | JN587261/Culex/Korea/2008              |
| JX514947 | I | 2011 | China   | Guangdong | Mosquito | South China     | Mosquito     | JX514947/Mosquito/China_Guangdong/2011 |
| JX514948 | I | 2011 | China   | Guangdong | Mosquito | South China     | Mosquito     | JX514948/Mosquito/China_Guangdong/2011 |
| JX514949 | I | 2011 | China   | Guangdong | Mosquito | South China     | Mosquito     | JX514949/Mosquito/China_Guangdong/2011 |
| JX514950 | I | 2011 | China   | Guangdong | Mosquito | South China     | Mosquito     | JX514950/Mosquito/China_Guangdong/2011 |
| JX514951 | I | 2011 | China   | Guangdong | Mosquito | South China     | Mosquito     | JX514951/Mosquito/China_Guangdong/2011 |
| JX514952 | I | 2011 | China   | Guangdong | Mosquito | South China     | Mosquito     | JX514952/Mosquito/China_Guangdong/2011 |
| JX514953 | I | 2011 | China   | Guangdong | Mosquito | South China     | Mosquito     | JX514953/Mosquito/China_Guangdong/2011 |
| KC526872 | I | 2011 | India   |           | Human    | India           | Human/Mammal | KC526872/Human/India//2011             |
| KF667296 | I | 2011 | China   | Taiwan    | Mosquito | Taiwan          | Mosquito     | KF667296/Mosquito/China_Taiwan/2011    |
| KF667297 | I | 2011 | China   | Taiwan    | Mosquito | Taiwan          | Mosquito     | KF667297/Mosquito/China_Taiwan/2011    |
| KF667298 | I | 2011 | China   | Taiwan    | Mosquito | Taiwan          | Mosquito     | KF667298/Mosquito/China_Taiwan/2011    |
| KF667299 | I | 2011 | China   | Taiwan    | Mosquito | Taiwan          | Mosquito     | KF667299/Mosquito/China_Taiwan/2011    |
| KF667300 | I | 2011 | China   | Taiwan    | Mosquito | Taiwan          | Mosquito     | KF667300/Mosquito/China_Taiwan/2011    |
| KF667301 | I | 2012 | China   | Taiwan    | Mosquito | Taiwan          | Mosquito     | KF667301/Mosquito/China_Taiwan/2012    |
| KF667302 | I | 2012 | China   | Taiwan    | Mosquito | Taiwan          | Mosquito     | KF667302/Mosquito/China_Taiwan/2012    |
| KF667303 | I | 2012 | China   | Taiwan    | Mosquito | Taiwan          | Mosquito     | KF667303/Mosquito/China_Taiwan/2012    |
| KF667304 | I | 2012 | China   | Taiwan    | Mosquito | Taiwan          | Mosquito     | KF667304/Mosquito/China_Taiwan/2012    |



|          |     |      |           |          |          |                 |                    |                                       |
|----------|-----|------|-----------|----------|----------|-----------------|--------------------|---------------------------------------|
| KJ190862 | I   | 2013 | China     | Shandong | Mosquito | North Mid China | Mosquito           | KJ190862/Mosquito/China_Shandong/2013 |
| KM079080 | I   | 2013 | China     | Zhejiang | Mosquito | South China     | Mosquito           | KM079080/Mosquito/China_Zhejiang/2013 |
| KM079081 | I   | 2013 | China     | Zhejiang | Mosquito | South China     | Mosquito           | KM079081/Mosquito/China_Zhejiang/2013 |
| KM079082 | I   | 2013 | China     | Zhejiang | Mosquito | South China     | Mosquito           | KM079082/Mosquito/China_Zhejiang/2013 |
| KM079083 | I   | 2013 | China     | Zhejiang | Mosquito | South China     | Mosquito           | KM079083/Mosquito/China_Zhejiang/2013 |
| KM079084 | I   | 2013 | China     | Zhejiang | Mosquito | South China     | Mosquito           | KM079084/Mosquito/China_Zhejiang/2013 |
| KM079085 | I   | 2013 | China     | Zhejiang | Mosquito | South China     | Mosquito           | KM079085/Mosquito/China_Zhejiang/2013 |
| KM079086 | I   | 2013 | China     | Zhejiang | Mosquito | South China     | Mosquito           | KM079086/Mosquito/China_Zhejiang/2013 |
| KM576774 | I   | 2014 | China     | Zhejiang | Mosquito | South China     | Mosquito           | KM576774/Mosquito/China_Zhejiang/2014 |
| KM576775 | I   | 2014 | China     | Zhejiang | Mosquito | South China     | Mosquito           | KM576775/Mosquito/China_Zhejiang/2014 |
| KM576776 | I   | 2014 | China     | Zhejiang | Mosquito | South China     | Mosquito           | KM576776/Mosquito/China_Zhejiang/2014 |
| KM576777 | I   | 2014 | China     | Zhejiang | Mosquito | South China     | Mosquito           | KM576777/Mosquito/China_Zhejiang/2014 |
| KM576778 | I   | 2014 | China     | Zhejiang | Mosquito | South China     | Mosquito           | KM576778/Mosquito/China_Zhejiang/2014 |
| KM576779 | I   | 2014 | China     | Zhejiang | Mosquito | South China     | Mosquito           | KM576779/Mosquito/China_Zhejiang/2014 |
| U70391   | I   | 1984 | Thailand  |          | Swine    | Southeast Asia  | Human/Mammal       | U70391/Swine/Thailand/1984            |
| U70410   | I   | 1967 | Cambodia  |          | Mosquito | Ancestral       | Ancestral          | U70410/Mosquito/Cambodia/1967         |
| U70416   | I   | 1982 | Thailand  |          | Human    | Southeast Asia  | Human/Mammal       | U70416/Human/Thailand/1982            |
| AY184213 | II  | 1999 | Malaysia  |          | Human    | Ancestral       | Ancestral          | AY184213/Human/Malaysia/1999          |
| HQ223285 | II  | 1951 | Korea     |          | Human    | Ancestral       | Ancestral          | HQ223285/Human/Korea/1951             |
| HQ223286 | II  | 1970 | Malaysia  |          | Mosquito | Ancestral       | Ancestral          | HQ223286/Mosquito/Malaysia/1970       |
| HQ223287 | II  | 1978 | Indonesia |          | Mosquito | Ancestral       | Ancestral          | HQ223287/Mosquito/Indonesia/1978      |
| L43566   | II  | 1995 | Australia |          | Human    | Ancestral       | Ancestral          | L43566/Human/Australia/1995           |
| L47349   | II  | 1995 | Australia |          | Mosquito | Ancestral       | Ancestral          | L47349/Mosquito/Australia/1995        |
| U70406   | II  | 1981 | Indonesia |          | Mosquito | Ancestral       | Ancestral          | U70406/Mosquito/Indonesia/1981        |
| U70421   | II  | 1970 | Malaysia  |          | Mosquito | Ancestral       | Ancestral          | U70421/Mosquito/Malaysia/1970         |
| AB028255 | III | 1951 | Japan     |          |          | Ancestral       | Ancestral          | AB028255/Japan/1951                   |
| AB028258 | III | 1985 | Japan     |          | Mosquito | Japan           | Mosquito           | AB028258/Mosquito/Japan/1985          |
| AB028259 | III | 1985 | Japan     |          | Mosquito | Japan           | Mosquito           | AB028259/Mosquito/Japan/1985          |
| AB028260 | III | 1985 | Japan     |          | Mosquito | Japan           | Mosquito           | AB028260/Mosquito/Japan/1985          |
| AB028261 | III | 1986 | Japan     |          | Mosquito | Japan           | Mosquito           | AB028261/Mosquito/Japan/1986          |
| AB028262 | III | 1986 | Japan     |          | Mosquito | Japan           | Mosquito           | AB028262/Mosquito/Japan/1986          |
| AB028263 | III | 1986 | Japan     |          | Mosquito | Japan           | Mosquito           | AB028263/Mosquito/Japan/1986          |
| AB028264 | III | 1988 | Japan     |          |          | Japan           | Unidentified/Other | AB028264/Japan/1988                   |
| AB028265 | III | 1989 | Japan     |          |          | Japan           | Unidentified/Other | AB028265/Japan/1989                   |
| AB028266 | III | 1989 | Japan     |          |          | Japan           | Unidentified/Other | AB028266/Japan/1989                   |
| AB028267 | III | 1990 | Japan     |          |          | Japan           | Unidentified/Other | AB028267/Japan/1990                   |
| AB028270 | III | 1970 | Japan     |          |          | Japan           | Unidentified/Other | AB028270/Japan/1970                   |
| AB028271 | III | 1970 | Japan     |          |          | Japan           | Unidentified/Other | AB028271/Japan/1970                   |
| AB551990 | III | 1975 | Japan     |          | Swine    | Japan           | Human/Mammal       | AB551990/Swine/Japan/1975             |
| AB551991 | III | 1990 | Japan     |          | Swine    | Japan           | Human/Mammal       | AB551991/Swine/Japan/1990             |
| AB551992 | III | 1991 | Japan     |          | Swine    | Japan           | Human/Mammal       | AB551992/Swine/Japan/1991             |
| AB569978 | III | 1973 | Japan     |          | Mosquito | Japan           | Mosquito           | AB569978/Mosquito/Japan/1973          |

|          |     |      |         |              |              |                 |              |   |
|----------|-----|------|---------|--------------|--------------|-----------------|--------------|---|
| AB569980 | III | 1975 | Japan   |              | Swine        | Japan           | Human/Mammal | AB569980/Swine/Japan/1975                     |
| AB569981 | III | 1975 | Japan   |              | Swine        | Japan           | Human/Mammal | AB569981/Swine/Japan/1975                     |
| AB569983 | III | 1975 | Japan   |              | Swine        | Japan           | Human/Mammal | AB569983/Swine/Japan/1975                     |
| AB569986 | III | 1975 | Japan   |              | Swine        | Japan           | Human/Mammal | AB569986/Swine/Japan/1975                     |
| AB569987 | III | 1973 | Japan   |              | Mosquito     | Japan           | Mosquito     | AB569987/Mosquito/Japan/1973                  |
| AB569988 | III | 1973 | Japan   |              | Mosquito     | Japan           | Mosquito     | AB569988/Mosquito/Japan/1973                  |
| AB569989 | III | 1973 | Japan   |              | Mosquito     | Japan           | Mosquito     | AB569989/Mosquito/Japan/1973                  |
| AB569990 | III | 1972 | Japan   |              | Mosquito     | Japan           | Mosquito     | AB569990/Mosquito/Japan/1972                  |
| AB569991 | III | 1976 | Japan   |              | Mosquito     | Japan           | Mosquito     | AB569991/Mosquito/Japan/1976                  |
| AB569992 | III | 1974 | Japan   |              | Mosquito     | Japan           | Mosquito     | AB569992/Mosquito/Japan/1974                  |
| AB569995 | III | 1974 | Japan   |              | Mosquito     | Japan           | Mosquito     | AB569995/Mosquito/Japan/1974                  |
| AB569996 | III | 1974 | Japan   |              | Swine        | Japan           | Human/Mammal | AB569996/Swine/Japan/1974                     |
| AF030549 | III | 1992 | China   | Taiwan       | Culex        | Taiwan          | Mosquito     | AF030549/Culex/China_Taiwan/1992              |
| AF069076 | III | 1959 | Japan   |              | Culex        | Ancestral       | Ancestral    | AF069076/Culex/Japan/1959                     |
| AF075723 | III | 1978 | India   |              | Human        | India           | Human/Mammal | AF075723/Human/India/1978                     |
| AF080251 | III | 1958 | India   |              |              | Ancestral       | Ancestral    | AF080251/India/1958                           |
| AF098737 | III | 1965 | China   | Taiwan       | Human        | Ancestral       | Ancestral    | AF098737/Human/China_Taiwan/1965              |
| AF221500 | III | 1994 | China   | Taiwan       | Mosquito     | Taiwan          | Mosquito     | AF221500/Mosquito/China_Taiwan/1994           |
| AF254452 | III | 1990 | China   | Taiwan       | Culex        | Taiwan          | Mosquito     | AF254452/Culex/China_Taiwan/1990              |
| AF254453 | III | 1997 | China   | Taiwan       | Armigeres    | Taiwan          | Mosquito     | AF254453/Armigeres/China_Taiwan/1997          |
| AY243830 | III | 1955 | China   | Fujian       | Human        | Ancestral       | Ancestral    | AY243830/Human/China_Fujian/1955              |
| AY243836 | III | 1987 | China   | Shanghai     | Human        | Singleton*      | Singleton*   | AY243836/Human/China_Shanghai/1987            |
| AY243840 | III | 1955 | China   | Fujian       | Human        | Ancestral       | Ancestral    | AY243840/Human/China_Fujian/1955              |
| AY243843 | III | 1949 | China   | Beijing      | Human        | Ancestral       | Ancestral    | AY243843/Human/China_Beijing/1949             |
| AY376462 | III | 1989 | Vietnam |              | Human        | Southeast Asia  | Human/Mammal | AY376462/Human/Vietnam/1989                   |
| AY376463 | III | 1989 | Vietnam |              | Human        | Southeast Asia  | Human/Mammal | AY376463/Human/Vietnam/1989                   |
| AY427794 | III | 1990 | Japan   |              | Mosquito     | Japan           | Mosquito     | AY427794/Mosquito/Japan/1990                  |
| AY427795 | III | 1990 | Japan   |              | Mosquito     | Japan           | Mosquito     | AY427795/Mosquito/Japan/1990                  |
| AY508812 | III | 1981 | Japan   |              | Human        | Japan           | Human/Mammal | AY508812/Human/Japan/1981                     |
| AY555762 | III | 2002 | China   | Fujian       | Human        | South China     | Human/Mammal | AY555762/Human/China_Fujian/2002              |
| AY555763 | III | 2002 | China   | Fujian       | Human        | South China     | Human/Mammal | AY555763/Human/China_Fujian/2002              |
| AY555764 | III | 2002 | China   | Fujian       | Human        | South China     | Human/Mammal | AY555764/Human/China_Fujian/2002              |
| AY555765 | III | 2002 | China   | Fujian       | Human        | South China     | Human/Mammal | AY555765/Human/China_Fujian/2002              |
| AY555766 | III | 2002 | China   | Fujian       | Human        | South China     | Human/Mammal | AY555766/Human/China_Fujian/2002              |
| AY555767 | III | 2002 | China   | Fujian       | Human        | South China     | Human/Mammal | AY555767/Human/China_Fujian/2002              |
| AY849939 | III | 1988 | China   | Hubei        | Swine        | South Mid China | Human/Mammal | AY849939/Swine/China_Hubei/1988               |
| DQ355367 | III | 1985 | Japan   |              | Swine        | Japan           | Human/Mammal | DQ355367/Swine/Japan/1985                     |
| DQ404084 | III | 2002 | China   | Heilongjiang | Aedes vexans | North China     | Mosquito     | DQ404084/Aedes_vexans/China_Heilongjiang/2002 |
| DQ404106 | III | 2004 | China   | Shanghai     | Culex        | South China     | Mosquito     | DQ404106/Culex/China_Shanghai/2004            |
| DQ404109 | III | 2004 | China   | Guizhou      | Armigeres    | South China     | Mosquito     | DQ404109/Armigeres/China_Guizhou/2004         |
| DQ404111 | III | 2004 | China   | Guizhou      | Culex        | South China     | Mosquito     | DQ404111/Culex/China_Guizhou/2004             |
| DQ404112 | III | 2004 | China   | Guizhou      | Culex        | South China     | Mosquito     | DQ404112/Culex/China_Guizhou/2004             |

|          |     |      |       |          |           |                 |              |                                       |
|----------|-----|------|-------|----------|-----------|-----------------|--------------|---------------------------------------|
| DQ404113 | III | 2004 | China | Guizhou  | Culex     | South China     | Mosquito     | DQ404113/Culex/China_Guizhou/2004     |
| DQ404114 | III | 2004 | China | Guizhou  | Armigeres | South China     | Mosquito     | DQ404114/Armigeres/China_Guizhou/2004 |
| DQ404116 | III | 1954 | China | Fujian   | Human     | Ancestral       | Ancestral    | DQ404116/Human/China_Fujian/1954      |
| DQ404118 | III | 2003 | China | Fujian   | Human     | South China     | Human/Mammal | DQ404118/Human/China_Fujian/2003      |
| DQ404119 | III | 2003 | China | Fujian   | Human     | South China     | Human/Mammal | DQ404119/Human/China_Fujian/2003      |
| DQ404124 | III | 2003 | China | Fujian   | Human     | South China     | Human/Mammal | DQ404124/Human/China_Fujian/2003      |
| DQ404136 | III | 1998 | China | Yunnan   | Mosquito  | South Mid China | Mosquito     | DQ404136/Mosquito/China_Yunnan/1998   |
| DQ404141 | III | 2004 | China | Yunnan   | Anopheles | South Mid China | Mosquito     | DQ404141/Anopheles/China_Yunnan/2004  |
| DQ404142 | III | 2004 | China | Yunnan   | Culex     | South Mid China | Mosquito     | DQ404142/Culex/China_Yunnan/2004      |
| DQ404144 | III | 2004 | China | Yunnan   | Culex     | South Mid China | Mosquito     | DQ404144/Culex/China_Yunnan/2004      |
| DQ404145 | III | 2004 | China | Yunnan   | Mosquito  | South Mid China | Mosquito     | DQ404145/Mosquito/China_Yunnan/2004   |
| DQ404146 | III | 2004 | China | Yunnan   | Mosquito  | South Mid China | Mosquito     | DQ404146/Mosquito/China_Yunnan/2004   |
| DQ404147 | III | 2004 | China | Yunnan   | Culex     | South Mid China | Mosquito     | DQ404147/Culex/China_Yunnan/2004      |
| DQ404148 | III | 2004 | China | Yunnan   | Culex     | South Mid China | Mosquito     | DQ404148/Culex/China_Yunnan/2004      |
| EF543861 | III | 2006 | China | Shanghai | Swine     | Singleton*      | Singleton*   | EF543861/Swine/China_Shanghai/2006    |
| EF623987 | III | 2001 | India |          | Human     | India           | Human/Mammal | EF623987/Human/India/2001             |
| EF623988 | III | 2005 | India |          | Human     | India           | Human/Mammal | EF623988/Human/India/2005             |
| EF623989 | III | 2002 | India |          | Culex     | India           | Mosquito     | EF623989/Culex/India/2002             |
| EU683895 | III | 2002 | China | Taiwan   | Mosquito  | Taiwan          | Mosquito     | EU683895/Mosquito/China_Taiwan/2002   |
| FJ185036 | III | 1989 | China | Yunnan   | Bat       | South Mid China | Human/Mammal | FJ185036/Bat/Chian_Yunnan/1989        |
| FJ185037 | III | 1997 | China | Yunnan   | Bat       | South Mid China | Human/Mammal | FJ185037/Bat/China_Yunnan/1997        |
| FJ185038 | III | 1982 | China | Yunnan   | Culex     | South Mid China | Mosquito     | FJ185038/Culex/China_Yunnan/1982      |
| FJ185039 | III | 1979 | China | Yunnan   | Human     | South Mid China | Human/Mammal | FJ185039/Human/China_Yunnan/1979      |
| FJ872377 | III | 1946 | Korea |          | Human     | Ancestral       | Ancestral    | FJ872377/Human/Korea/1946             |
| FJ872378 | III | 1947 | Japan |          | Equid     | Ancestral       | Ancestral    | FJ872378/Equid/Japan/1947             |
| FJ872381 | III | 1939 | Japan |          | Human     | Ancestral       | Ancestral    | FJ872381/Human/Japan/1939             |
| FJ872384 | III | 1948 | Japan |          | Human     | Ancestral       | Ancestral    | FJ872384/Human/Japan/1948             |
| FJ938225 | III | 1987 | Korea |          | Mosquito  | South Korea     | Mosquito     | FJ938225/Mosquito/Korea/1987          |
| FJ938227 | III | 1988 | Korea |          | Mosquito  | South Korea     | Mosquito     | FJ938227/Mosquito/Korea/1988          |
| FJ938228 | III | 1983 | Korea |          | Mosquito  | South Korea     | Mosquito     | FJ938228/Mosquito/Korea/1983          |
| FJ938229 | III | 1989 | Korea |          | Mosquito  | South Korea     | Mosquito     | FJ938229/Mosquito/Korea/1989          |
| FJ943462 | III | 1980 | Japan |          | Swine     | Japan           | Human/Mammal | FJ943462/Swine/Japan/1980             |
| FJ943463 | III | 1980 | Japan |          | Swine     | Japan           | Human/Mammal | FJ943463/Swine/Japan/1980             |
| FJ943464 | III | 1981 | Japan |          | Swine     | Japan           | Human/Mammal | FJ943464/Swine/Japan/1981             |
| FJ943466 | III | 1989 | Japan |          | Swine     | Japan           | Human/Mammal | FJ943466/Swine/Japan/1989             |
| FJ943467 | III | 1989 | Japan |          | Swine     | Japan           | Human/Mammal | FJ943467/Swine/Japan/1989             |
| FJ943469 | III | 1989 | Japan |          | Swine     | Japan           | Human/Mammal | FJ943469/Swine/Japan/1989             |
| FJ943470 | III | 1989 | Japan |          | Swine     | Japan           | Human/Mammal | FJ943470/Swine/Japan/1989             |
| FJ979830 | III | 2005 | India |          | Human     | India           | Human/Mammal | FJ979830/Human/India/2005             |
| GQ260608 | III | 2005 | China | Taiwan   | Culex     | Taiwan          | Mosquito     | GQ260608/Culex/China_Taiwan/2005      |
| GQ260609 | III | 2005 | China | Taiwan   | Culex     | Taiwan          | Mosquito     | GQ260609/Culex/China_Taiwan/2005      |
| GQ260610 | III | 2005 | China | Taiwan   | Culex     | Taiwan          | Mosquito     | GQ260610/Culex/China_Taiwan/2005      |



|          |     |      |          |              |                   |                 |              |  |
|----------|-----|------|----------|--------------|-------------------|-----------------|--------------|--|
| GQ260611 | III | 2005 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260611/Culex/China_Taiwan/2005             |
| GQ260612 | III | 2005 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260612/Culex/China_Taiwan/2005             |
| GQ260613 | III | 2005 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260613/Culex/China_Taiwan/2005             |
| GQ260614 | III | 2005 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260614/Culex/China_Taiwan/2005             |
| GQ260615 | III | 2005 | China    | Taiwan       | Anopheles minimus | Taiwan          | Mosquito     | GQ260615/Anopheles_minimus/China_Taiwan/2005 |
| GQ260616 | III | 2005 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260616/Culex/China_Taiwan/2005             |
| GQ260617 | III | 2006 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260617/Culex/China_Taiwan/2006             |
| GQ260618 | III | 2006 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260618/Culex/China_Taiwan/2006             |
| GQ260619 | III | 2006 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260619/Culex/China_Taiwan/2006             |
| GQ260620 | III | 2006 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260620/Culex/China_Taiwan/2006             |
| GQ260621 | III | 2006 | China    | Taiwan       | Human             | Taiwan          | Human/Mammal | GQ260621/Human/China_Taiwan/2006             |
| GQ260622 | III | 2007 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260622/Culex/China_Taiwan/2007             |
| GQ260623 | III | 2007 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260623/Culex/China_Taiwan/2007             |
| GQ260624 | III | 2007 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260624/Culex/China_Taiwan/2007             |
| GQ260625 | III | 2007 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260625/Culex/China_Taiwan/2007             |
| GQ260626 | III | 2007 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260626/Culex/China_Taiwan/2007             |
| GQ260627 | III | 2007 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260627/Culex/China_Taiwan/2007             |
| GQ260628 | III | 2008 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260628/Culex/China_Taiwan/2008             |
| GQ260629 | III | 2008 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260629/Culex/China_Taiwan/2008             |
| GQ260630 | III | 2008 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260630/Culex/China_Taiwan/2008             |
| GQ260631 | III | 2008 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260631/Culex/China_Taiwan/2008             |
| GQ260632 | III | 2008 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260632/Culex/China_Taiwan/2008             |
| GQ260634 | III | 2008 | China    | Taiwan       | Culex             | Taiwan          | Mosquito     | GQ260634/Culex/China_Taiwan/2008             |
| GQ387646 | III | 2009 | India    |              | Horse             | Singleton*      | Singleton*   | GQ387646/Horse/India/2009                    |
| GQ415347 | III | 1982 | Korea    |              | Mosquito          | South Korea     | Mosquito     | GQ415347/Mosquito/Korea/1982                 |
| GQ415349 | III | 1984 | Korea    |              | Mosquito          | South Korea     | Mosquito     | GQ415349/Mosquito/Korea/1984                 |
| GQ415353 | III | 1988 | Korea    |              | Mosquito          | South Korea     | Mosquito     | GQ415353/Mosquito/Korea/1988                 |
| GQ415354 | III | 1989 | Korea    |              | Mosquito          | South Korea     | Mosquito     | GQ415354/Mosquito/Korea/1989                 |
| GQ415356 | III | 1949 | Korea    |              | Human             | Ancestral       | Ancestral    | GQ415356/Human/Korea/1949                    |
| GQ495004 | III | 2008 | China    | Heilongjiang | Swine             | North China     | Human/Mammal | GQ495004/Swine/China_Heilongjiang/2008       |
| GQ495005 | III | 2008 | China    | Heilongjiang | Swine             | North China     | Human/Mammal | GQ495005/Swine/China_Heilongjiang/2008       |
| GQ856660 | III | 2005 | China    | Fujian       | Human             | South China     | Human/Mammal | GQ856660/Human/China_Fujian/2005             |
| GQ856661 | III | 2005 | China    | Fujian       | Human             | South China     | Human/Mammal | GQ856661/Human/China_Fujian/2005             |
| GQ856662 | III | 2007 | China    | Fujian       | Human             | South China     | Human/Mammal | GQ856662/Human/China_Fujian/2007             |
| GQ856663 | III | 2008 | China    | Fujian       | Human             | South China     | Human/Mammal | GQ856663/Human/China_Fujian/2008             |
| GQ856664 | III | 2008 | China    | Fujian       | Human             | South China     | Human/Mammal | GQ856664/Human/China_Fujian/2008             |
| GQ902063 | III | 1982 | Thailand |              | Mosquito          | Southeast Asia  | Mosquito     | GQ902063/Mosquito/Thailand/1982              |
| GQ918133 | III | 2008 | China    | Jiangsu      | Swine             | North Mid China | Human/Mammal | GQ918133/Swine/China_Jiangsu/2008            |
| GU253947 | III | 2009 | China    | Jiangsu      | Mosquito          | North Mid China | Mosquito     | GU253947/Mosquito/China_Jiangsu/2009         |
| GU253948 | III | 2009 | China    | Jiangsu      | Mosquito          | North Mid China | Mosquito     | GU253948/Mosquito/China_Jiangsu/2009         |
| GU253949 | III | 2009 | China    | Jiangsu      | Mosquito          | North Mid China | Mosquito     | GU253949/Mosquito/China_Jiangsu/2009         |
| GU253950 | III | 2009 | China    | Jiangsu      | Mosquito          | North Mid China | Mosquito     | GU253950/Mosquito/China_Jiangsu/2009         |

|          |     |      |         |              |                  |                 |              |   |
|----------|-----|------|---------|--------------|------------------|-----------------|--------------|---|
| GU253951 | III | 2008 | China   | Jiangsu      | Mosquito         | North Mid China | Mosquito     | GU253951/Mosquito/China_Jiangsu/2008              |
| GU253953 | III | 2009 | China   | Jiangsu      | Swine            | North Mid China | Human/Mammal | GU253953/Swine/China_Jiangsu/2009                 |
| GU253954 | III | 2008 | China   | Jiangsu      | Mosquito         | North Mid China | Mosquito     | GU253954/Mosquito/China_Jiangsu/2008              |
| GU253955 | III | 2008 | China   | Shanghai     | Mosquito         | South China     | Mosquito     | GU253955/Mosquito/China_Shanghai/2008             |
| GU253956 | III | 2009 | China   | Zhejiang     | Swine            | South China     | Human/Mammal | GU253956/Swine/China_Zhejiang/2009                |
| GU253957 | III | 2009 | China   | Jiangsu      | Swine            | North Mid China | Human/Mammal | GU253957/Swine/China_Jiangsu/2009                 |
| GU253958 | III | 2009 | China   | Jiangsu      | Mosquito         | North Mid China | Mosquito     | GU253958/Mosquito/China_Jiangsu/2009              |
| GU253959 | III | 2009 | China   | Jiangsu      | Mosquito         | North Mid China | Mosquito     | GU253959/Mosquito/China_Jiangsu/2009              |
| GU253960 | III | 2009 | China   | Jiangsu      | Swine            | North Mid China | Human/Mammal | GU253960/Swine/China_Jiangsu/2009                 |
| GU253961 | III | 2008 | China   | Jiangsu      | Mosquito         | North Mid China | Mosquito     | GU253961/Mosquito/China_Jiangsu/2008              |
| HE565479 | III | 2008 | China   | Henan        | Mosquito         | North Mid China | Mosquito     | HE565479/Mosquito/China_Henan/2008                |
| HE565480 | III | 2008 | China   | Henan        | Mosquito         | North Mid China | Mosquito     | HE565480/Mosquito/China_Henan/2008                |
| HE565481 | III | 2008 | China   | Henan        | Mosquito         | North Mid China | Mosquito     | HE565481/Mosquito/China_Henan/2008                |
| HE565482 | III | 2009 | China   | Henan        | Mosquito         | North Mid China | Mosquito     | HE565482/Mosquito/China_Henan/2009                |
| HE565483 | III | 2010 | China   | Henan        | Mosquito         | North Mid China | Mosquito     | HE565483/Mosquito/China_Henan/2010                |
| HE565484 | III | 2010 | China   | Henan        | Mosquito         | North Mid China | Mosquito     | HE565484/Mosquito/China_Henan/2010                |
| HM234674 | III | 2009 | China   | Sichuan      | Culex            | South Mid China | Mosquito     | HM234674/Culex/China_Sichuan/2009                 |
| HQ00926  | III | 2004 | Vietnam |              | Human            | Southeast Asia  | Human/Mammal | HQ00926/Human/Vietnam/2004                        |
| HQ009263 | III | 2004 | Vietnam |              | Human            | Southeast Asia  | Human/Mammal | HQ009263/Human/Vietnam/2004                       |
| JEU44958 | III | 1984 | China   | Taiwan       | Aedes            | Taiwan          | Mosquito     | JEU44958/Aedes/China_Taiwan/1984                  |
| JF320944 | III | 2004 | Vietnam |              | Human            | Southeast Asia  | Human/Mammal | JF320944/Human/Vietnam/2004                       |
| JF320945 | III | 2009 | Vietnam |              | Human            | Southeast Asia  | Human/Mammal | JF320945/Human/Vietnam/2009                       |
| JF320946 | III | 2002 | Vietnam |              | Human            | Southeast Asia  | Human/Mammal | JF320946/Human/Vietnam/2002                       |
| JF706269 | III | 1950 | China   | Heilongjiang | Human            | Ancestral       | Ancestral    | JF706269/Human/China_Heilongjiang/1950            |
| JF706272 | III | 2004 | China   | Yunnan       | Culex            | South Mid China | Mosquito     | JF706272/Culex/China_Yunnan/2004                  |
| JF706273 | III | 2002 | China   | Fujian       | Human            | South China     | Human/Mammal | JF706273/Human/China_Fujian/2002                  |
| JF706275 | III | 1960 | China   | Beijing      | Human            | Ancestral       | Ancestral    | JF706275/Human/China_Beijing/1960                 |
| JF706276 | III | 2002 | China   | Heilongjiang | Genus Culicoides | North China     | Mosquito     | JF706276/Genus_Culicoides/China_Heilongjiang/2002 |
| JF706280 | III | 1955 | China   | Fujian       | Human            | Ancestral       | Ancestral    | JF706280/Human/China_Fujian/1955                  |
| JF706283 | III | 1955 | China   | Fujian       | Human            | Ancestral       | Ancestral    | JF706283/Human/China_Fujian/1955                  |
| JN38185  | III | 2004 | China   | Guizhou      | Armigeres        | South China     | Mosquito     | JN38185/Armigeres/China_Guizhou/2004              |
| JN381853 | III | 1979 | China   | Yunnan       | Human            | South Mid China | Human/Mammal | JN381853/Human/China_Yunnan/1979                  |
| JN381854 | III | 2004 | China   | Yunnan       | Culex            | South Mid China | Mosquito     | JN381854/Culex/China_Yunnan/2004                  |
| JN381855 | III | 2004 | China   | Yunnan       | Culex            | South Mid China | Mosquito     | JN381855/Culex/China_Yunnan/2004                  |
| JN381856 | III | 2004 | China   | Shanghai     | Culex            | South China     | Mosquito     | JN381856/Culex/China_Shanghai/2004                |
| JN381859 | III | 2003 | China   | Fujian       | Human            | South China     | Human/Mammal | JN381859/Human/China_Fujian/2003                  |
| JN381860 | III | 1954 | China   | Fujian       | Human            | Ancestral       | Ancestral    | JN381860/Human/China_Fujian/1954                  |
| JN381861 | III | 2003 | China   | Yunnan       | Mosquito         | Singleton*      | Singleton*   | JN381861/Mosquito/China_Yunnan/2003               |
| JN381862 | III | 1955 | China   | Fujian       | Human            | Ancestral       | Ancestral    | JN381862/Human/China_Fujian/1955                  |
| JN381863 | III | 1955 | China   | Fujian       | Human            | Ancestral       | Ancestral    | JN381863/Human/China_Fujian/1955                  |
| JN381864 | III | 1987 | China   | Shanghai     | Human            | South China     | Human/Mammal | JN381864/Human/China_Shanghai/1987                |
| JN381865 | III | 1954 | China   | Fujian       | Human            | Ancestral       | Ancestral    | JN381865/Human/China_Fujian/1954                  |

|          |     |      |         |           |                    |                 |              |  |
|----------|-----|------|---------|-----------|--------------------|-----------------|--------------|--|
| JN381866 | III | 2004 | China   | Shanghai  | Culex              | South China     | Mosquito     | JN381866/Culex/China_Shanghai/2004               |
| JN381867 | III | 2002 | China   | Fujian    | Human              | South China     | Human/Mammal | JN381867/Human/China_Fujian/2002                 |
| JN381869 | III | 1957 | China   | Fujian    | Human              | Ancestral       | Ancestral    | JN381869/Human/China_Fujian/1957                 |
| JN381870 | III | 1957 | China   | Sichuan   | Human              | Ancestral       | Ancestral    | JN381870/Human/China_Sichuan/1957                |
| JN381871 | III | 1954 | China   | Yunnan    | Human              | Ancestral       | Ancestral    | JN381871/Human/China_Yunnan/1954                 |
| JN381873 | III | 1989 | China   | Yunnan    | Aedes              | Singleton*      | Singleton*   | JN381873/Aedes/China_Yunnan/1989                 |
| JN711458 | III | 2009 | China   | Guangdong | Myotis pilosus     | South China     | Human/Mammal | JN711458/Myotis_pilosus/China_Guangdong/2009     |
| JN711459 | III | 2008 | China   | Guangdong | Scotophilus kuhlii | South China     | Human/Mammal | JN711459/Scotophilus_kuhlii/China_Guangdong/2008 |
| JN864064 | III | 2009 | China   | Yunnan    | Mosquito           | South Mid China | Mosquito     | JN864064/Mosquito/China_Yunnan/2009              |
| JQ086763 | III | 2009 | China   | Yunnan    | Sus scrofa         | South Mid China | Human/Mammal | JQ086763/Sus_scrofa/China_Yunnan/2009            |
| JQ39045  | III | 1997 | Vietnam |           | Human              | Southeast Asia  | Human/Mammal | JQ39045/Human/Vietnam/1997                       |
| JX045833 | III | 2011 | China   | Sichuan   | Mosquito           | South Mid China | Mosquito     | JX045833/Mosquito/China_Sichuan/2011             |
| JX045834 | III | 2011 | China   | Sichuan   | Mosquito           | South Mid China | Mosquito     | JX045834/Mosquito/China_Sichuan/2011             |
| JX045835 | III | 2011 | China   | Sichuan   | Mosquito           | South Mid China | Mosquito     | JX045835/Mosquito/China_Sichuan/2011             |
| JX045836 | III | 2011 | China   | Sichuan   | Mosquito           | South Mid China | Mosquito     | JX045836/Mosquito/China_Sichuan/2011             |
| JX045837 | III | 2011 | China   | Sichuan   | Mosquito           | South Mid China | Mosquito     | JX045837/Mosquito/China_Sichuan/2011             |
| JX045838 | III | 2011 | China   | Sichuan   | Mosquito           | South Mid China | Mosquito     | JX045838/Mosquito/China_Sichuan/2011             |
| KC526869 | III | 2011 | India   |           | Human              | India           | Human/Mammal | KC526869/Human/India//2011                       |
| KC526870 | III | 2011 | India   |           | Human              | India           | Human/Mammal | KC526870/Human/India//2011                       |
| KC526871 | III | 2012 | India   |           | Human              | India           | Human/Mammal | KC526871/Human/India//2012                       |
| KC802020 | III | 2011 | India   |           | Human              | India           | Human/Mammal | KC802020/Human/India//2011                       |
| KC802021 | III | 2011 | India   |           | Human              | India           | Human/Mammal | KC802021/Human/India//2011                       |
| KC802022 | III | 2012 | India   |           | Human              | India           | Human/Mammal | KC802022/Human/India//2012                       |
| KC915017 | III | 2011 | China   | Guizhou   | Swine              | South Mid China | Human/Mammal | KC915017/Swine/China_Guizhou/2011                |
| KF667309 | III | 2012 | China   | Taiwan    | Mosquito           | Taiwan          | Mosquito     | KF667309/Mosquito/China_Taiwan/2012              |
| L78128   | III | 1965 | China   | Taiwan    | Human              | Ancestral       | Ancestral    | L78128/Human/China_Taiwan/1965                   |
| M18370   | III | 1982 | Japan   |           | Mosquito           | Japan           | Mosquito     | M18370/Mosquito/Japan/1982                       |
| M55506   | III | 1960 | China   | Shaanxi   | Mosquito           | Ancestral       | Ancestral    | M55506/Mosquito/China_Shaanxi/SA-14/1960         |
| S47265   | III | 1966 | Japan   |           |                    | Ancestral       | Ancestral    | S47265/Japan/1966                                |
| U03690   | III | 1985 | Nepal   |           | Human              | Singleton*      | Singleton*   | U03690/Human/Nepal/1985                          |
| U34927   | III | 1987 | Korea   |           | Culex              | South Korea     | Mosquito     | U34927/Culex/Korea/1987                          |
| U44957   | III | 1983 | China   | Taiwan    | Culex              | Taiwan          | Mosquito     | U44957/China_Taiwan/1983                         |
| U44959   | III | 1986 | China   | Taiwan    | Culex              | Taiwan          | Mosquito     | U44959/China_Taiwan/1986                         |
| U44960   | III | 1990 | China   | Taiwan    | Aedes              | Taiwan          | Mosquito     | U44960/Aedes/China_Taiwan/1990                   |
| U44961   | III | 1987 | China   | Taiwan    | Culex              | Taiwan          | Mosquito     | U44961/China_Taiwan/1987                         |
| U44962   | III | 1985 | China   | Taiwan    | Culex              | Taiwan          | Mosquito     | U44962/China_Taiwan/1985                         |
| U44964   | III | 1959 | Japan   |           | Mosquito           | Ancestral       | Ancestral    | U44964/Mosquito/Japan/1959                       |
| U44965   | III | 1985 | China   | Taiwan    | Culex              | Taiwan          | Mosquito     | U44965/China_Taiwan/1985                         |
| U44966   | III | 1935 | Japan   |           | Human              | Ancestral       | Ancestral    | U44966/Human/Japan/1935                          |
| U44968   | III | 1985 | China   | Taiwan    | Aedes              | Taiwan          | Mosquito     | U44968/Aedes/China_Taiwan/1985                   |
| U70387   | III | 1978 | India   |           | Human              | Singleton*      | Singleton*   | U70387/Human/India/1978                          |
| U70389   | III | 1949 | China   | Beijing   | Human              | Ancestral       | Ancestral    | U70389/Human/China_Beijing/1949                  |

|          |     |      |             |        |          |                |                    |                                    |
|----------|-----|------|-------------|--------|----------|----------------|--------------------|------------------------------------|
| U70390   | III | 1978 | Japan       |        | Mosquito | Japan          | Mosquito           | U70390/Mosquito/Japan/1978         |
| U70392   | III | 1985 | Nepal       |        | Human    | Singleton*     | Singleton*         | U70392/Human/Nepal/1985            |
| U70393   | III | 1964 | Thailand    |        | Human    | Singleton*     | Singleton*         | U70393/Human/Thailand/1964         |
| U70394   | III | 1956 | India       |        | Mosquito | Ancestral      | Ancestral          | U70394/Mosquito/India/1956         |
| U70395   | III | 1987 | Sri Lanka   |        | Human    | India          | Human/Mammal       | U70395/Human/Sri_Lanka/1987        |
| U70396   | III | 1972 | China       | Taiwan | Mosquito | Singleton*     | Singleton*         | U70396/Mosquito/China_Taiwan/1972  |
| U70402   | III | 1978 | India       |        | Human    | Singleton*     | Singleton*         | U70402/Human/India/1978            |
| U70403   | III | 1982 | India       |        | Human    | India          | Human/Mammal       | U70403/Human/India/1982            |
| U70404   | III | 1979 | Indonesia   |        | Mosquito | Singleton*     | Singleton*         | U70404/Mosquito/Indonesia/1979     |
| U70413   | III | 1935 | Japan       |        | Human    | Ancestral      | Ancestral          | U70413/Human/Japan/1935            |
| U70414   | III | 1979 | Japan       |        | Mosquito | Japan          | Mosquito           | U70414/Mosquito/Japan/1979         |
| U70415   | III | 1958 | India       |        | Human    | Ancestral      | Ancestral          | U70415/Human/India/1958            |
| U70417   | III | 1984 | Philippines |        | Swine    | Singleton*     | Singleton*         | U70417/Swine/Philippines/1984      |
| U70418   | III | 1970 | India       |        |          | India          | Unidentified/Other | U70418/India/1970                  |
| U70419   | III | 1957 | Japan       |        | Mosquito | Ancestral      | Ancestral          | U70419/Mosquito/Japan/1957         |
| U70420   | III | 1979 | Vietnam     |        | Mosquito | Southeast Asia | Mosquito           | U70420/Mosquito/Vietnam/1979       |
| Z34094   | III | 1982 | India       |        |          | India          | Unidentified/Other | Z34094/India/1982                  |
| Z34095   | III | 1973 | India       |        | Human    | India          | Human/Mammal       | Z34095/Human/India/1973            |
| Z34097   | III | 1969 | Sri Lanka   |        | Human    | Ancestral      | Ancestral          | Z34097/Human/Sri_Lanka/1969        |
| U70408   | IV  | 1981 | Indonesia   |        | Mosquito | Ancestral      | Ancestral          | U70408/Mosquito/Indonesia/1981     |
| HM596272 | V   | 1952 | Malaysia    |        | Human    | Ancestral      | Ancestral          | HM596272/Human/Malaysia/1952       |
| JF915894 | V   | 2009 | China Tibet |        | Mosquito | Ancestral      | Ancestral          | JF915894/Mosquito/China_Tibet/2009 |
| JN587258 | V   | 2010 | Korea       |        | Culex    | Ancestral      | Ancestral          | JN587258/Culex/Korea/2010          |

**Table S2.** Summary of sequences by viral genotype and discrete geographic state location for all sampled species.

| JEV<br>Genotype | Total in<br>data | Singletons* | Total<br>included<br>in analysis | Geographic State Code |    |    |    |    |    |    |     |    |    |
|-----------------|------------------|-------------|----------------------------------|-----------------------|----|----|----|----|----|----|-----|----|----|
|                 |                  |             |                                  | SEA                   | IN | A  | B  | C  | D  | TW | JP  | K  | Z  |
| I               | 308              | 2           | 306                              | 37                    | 1  | 61 | 21 | 42 | 10 | 43 | 79  | 11 | 1  |
| III             | 247              | 13          | 233                              | 10                    | 16 | 31 | 27 | 19 | 4  | 40 | 42  | 9  | 35 |
| II              | 8                | -           | 8                                |                       |    |    |    |    |    |    |     |    | 8  |
| IV              | 1                | -           | 1                                |                       |    |    |    |    |    |    |     |    | 1  |
| V               | 3                | -           | 3                                |                       |    |    |    |    |    |    |     |    | 3  |
| Total           | 567              | 15          | 551                              | 47                    | 17 | 92 | 48 | 61 | 14 | 83 | 121 | 20 | 49 |

\*Singletons, such as single isolates found in Australia were not included in the final analyses

Geographic state codes: Southeast Asia(SEA), India (IN), Mainland China (A-D), Taiwan (TW), Japan (JP), South Korea (K),

Ancestral population (Z)

**Table S3.** Summary of sequences by viral genotype and host type.

| JEV<br>Genotype | Total in<br>data | Singletons* | Total<br>included in<br>analysis | Host State Code |        |          |                        | Z  |
|-----------------|------------------|-------------|----------------------------------|-----------------|--------|----------|------------------------|----|
|                 |                  |             |                                  | Human           | Mammal | Mosquito | Unidentified/<br>other |    |
| I               | 308              | 2           | 306                              | 10              | 70     | 224      | 1                      | 1  |
| III             | 247              | 13          | 233                              | 42              | 30     | 117      | 8                      | 36 |
| II              | 8                | -           | 8                                |                 |        |          |                        | 8  |
| IV              | 1                | -           | 1                                |                 |        |          |                        | 1  |
| V               | 3                | -           | 3                                |                 |        |          |                        | 3  |
| Total           | 567              | 15          | 551                              | 52              | 100    | 341      | 9                      | 49 |

\*Singletons, such as single isolates found in Australia were not included in the final analyses

Human and mammal isolates were combined for GI and GIII in analyses and classified as 'Human/mammal' due to sample size discrepancies

**Table S4.** Summary of sequences by viral genotype and discrete geographic state location for mosquito hosts.

| JEV Genotype | Total in data | Singletons* | Total included in analysis | Geographic State Code |    |    |    |    |   |    |    |    |    |
|--------------|---------------|-------------|----------------------------|-----------------------|----|----|----|----|---|----|----|----|----|
|              |               |             |                            | SEA                   | IN | A  | B  | C  | D | TW | JP | K  | Z  |
| I            | 226           | 1           | 225                        | 14                    | 0  | 58 | 18 | 41 | 7 | 43 | 33 | 10 | 1  |
| III          | 126           | 4           | 122                        | 2                     | 1  | 10 | 20 | 15 | 2 | 39 | 19 | 9  | 5  |
| II           | 5             | -           | 5                          |                       |    |    |    |    |   |    |    |    | 5  |
| IV           | 1             | -           | 1                          |                       |    |    |    |    |   |    |    |    | 1  |
| V            | 2             | -           | 2                          |                       |    |    |    |    |   |    |    |    | 2  |
| Total        | 360           | 5           | 355                        | 16                    | 1  | 68 | 38 | 56 | 9 | 82 | 52 | 19 | 14 |

\*Singletons, such as single isolates found in Australia were not included in the final analyses

Geographic state codes: Southeast Asia(SEA), India (IN), Mainland China (A-D), Taiwan (TW), Japan (JP), South Korea (K), Ancestral population (Z)

**Table S5.** Statistically supported mean GI migration rate estimates between sampling locations among mosquitoes.

|         | China-A | China-B                                 | China-C                                 | China-D                                 | Taiwan                                  | Japan                                   | Korea                                   |
|---------|---------|---|---|---|---|---|---|
| SE Asia |         | <b>1.06<sup>§</sup></b><br>(0.22, 2.11) |   |   |   |   |   |
| China-A | -       | <b>1.75<sup>§</sup></b><br>(0.46, 3.32) | <b>3.61<sup>§</sup></b><br>(1.45, 5.94) |   | <b>1.06<sup>§</sup></b><br>(0.20, 2.12) | <b>1.48<sup>§</sup></b><br>(0.36, 2.81) | <b>1.94<sup>§</sup></b><br>(0.61, 3.51) |
| China-B |         | -                                       | <b>1.68<sup>§</sup></b><br>(0.36, 2.81) | <b>1.19<sup>§</sup></b><br>(0.17, 2.39) |   |   |   |
| China-C |         |   | -                                       |   |   |   |   |
| China-D |         |   |   | -                                       |   |   |   |
| Taiwan  |         |   |   |   | -                                       |   |   |
| Japan   |         |   |   |   |   | -                                       |   |

BSSV statistically supported migration rates in bold with 95% Bayesian confidence interval (BCI), where the Bayes factor was >3 and were observed in at least 50% of the sampled phylogenies. <sup>§</sup> BF > 100. Unsupported migration rates are not shown.



**Table S6.** Statistically supported mean GIII migration rate estimates between sampling locations among mosquitoes.

|         | SE Asia | India                                   | China-A | China-B                                 | China-C                                 | China D                                 | Taiwan | Japan                                    | Korea                                   |
|---------|---------|---|---------|---|---|---|--------|--|---|
| SE Asia | -       | <b>0.67<sup>‡</sup></b><br>(0.01, 1.64) |         |   |   |   |        |  |   |
| India   |         | -                                       |         |   |   |   |        |  |   |
| China-A |         |   | -       | <b>1.04<sup>§</sup></b><br>(0.10, 2.26) | <b>0.69<sup>‡</sup></b><br>(0.01, 1.69) | <b>0.69<sup>†</sup></b><br>(0.01, 1.65) |        |  |   |
| China-B |         |   |         | -                                       | <b>0.94<sup>§</sup></b><br>(0.10, 2.00) |   |        |  |   |
| China-C |         |   |         |   | -                                       |   |        |  |   |
| China-D |         |   |         |   |   | -                                       |        |  |   |
| Taiwan  |         |   |         |   |   |   | -      | <b>0.65<sup>‡</sup></b><br>(0.03, 1.35)) |   |
| Japan   |         |   |         |   |   |   |        | -  | <b>0.87<sup>§</sup></b><br>(0.07, 1.83) |

BSSV statistically supported migration rates in bold with 95% Bayesian confidence interval (BCI), where the Bayes factor was >3 and were observed in at least 50% of the sampled phylogenies. \* 6 ≥ BF ≥ 10; † 10 > BF ≥ 30; ‡ 30 > BF ≥ 100; § BF > 100.

Unsupported migration rates are not shown.

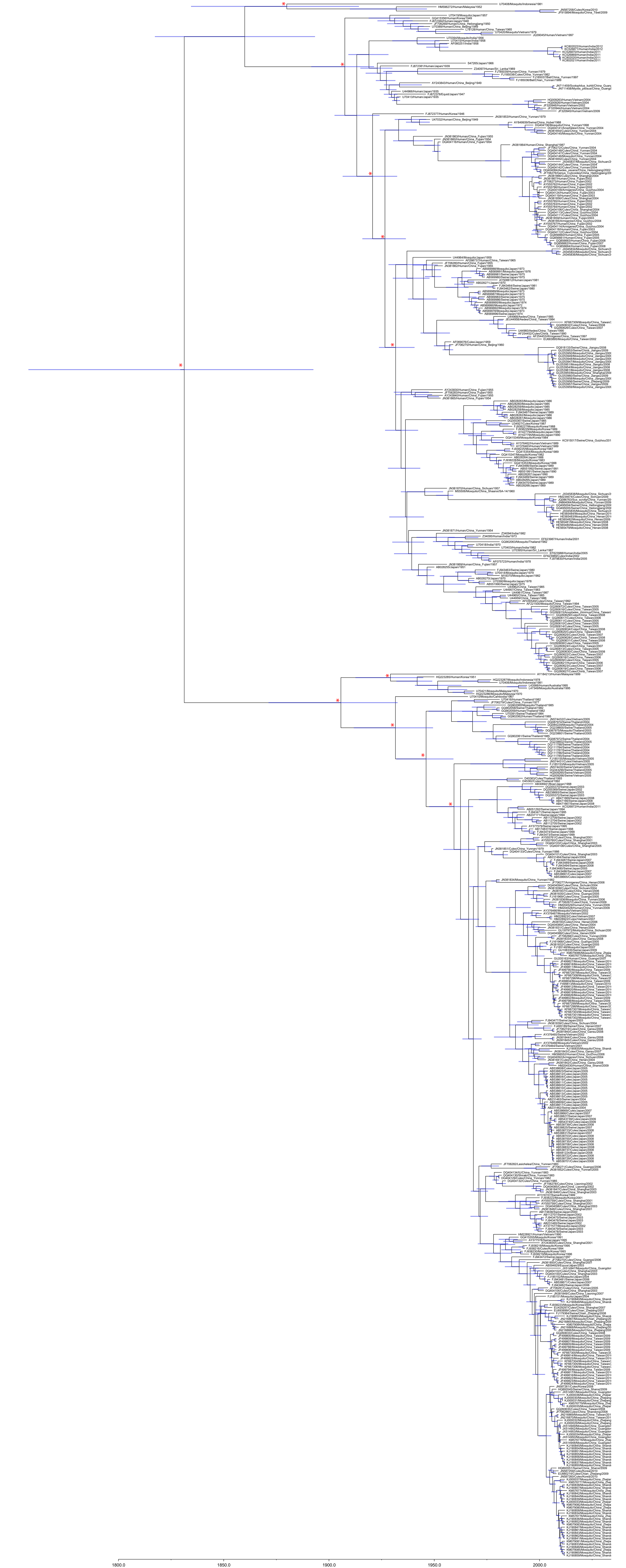




Figure S3

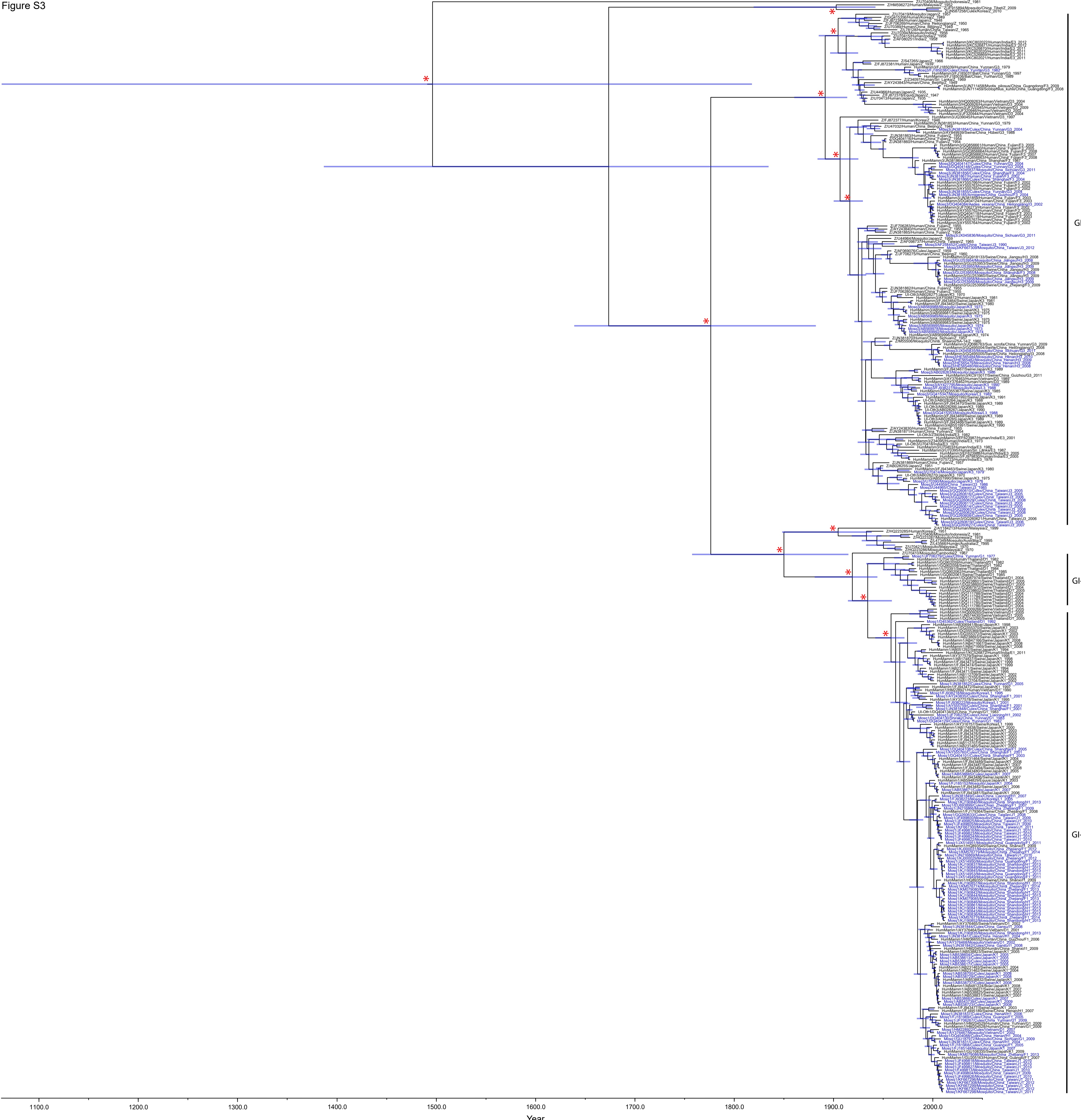
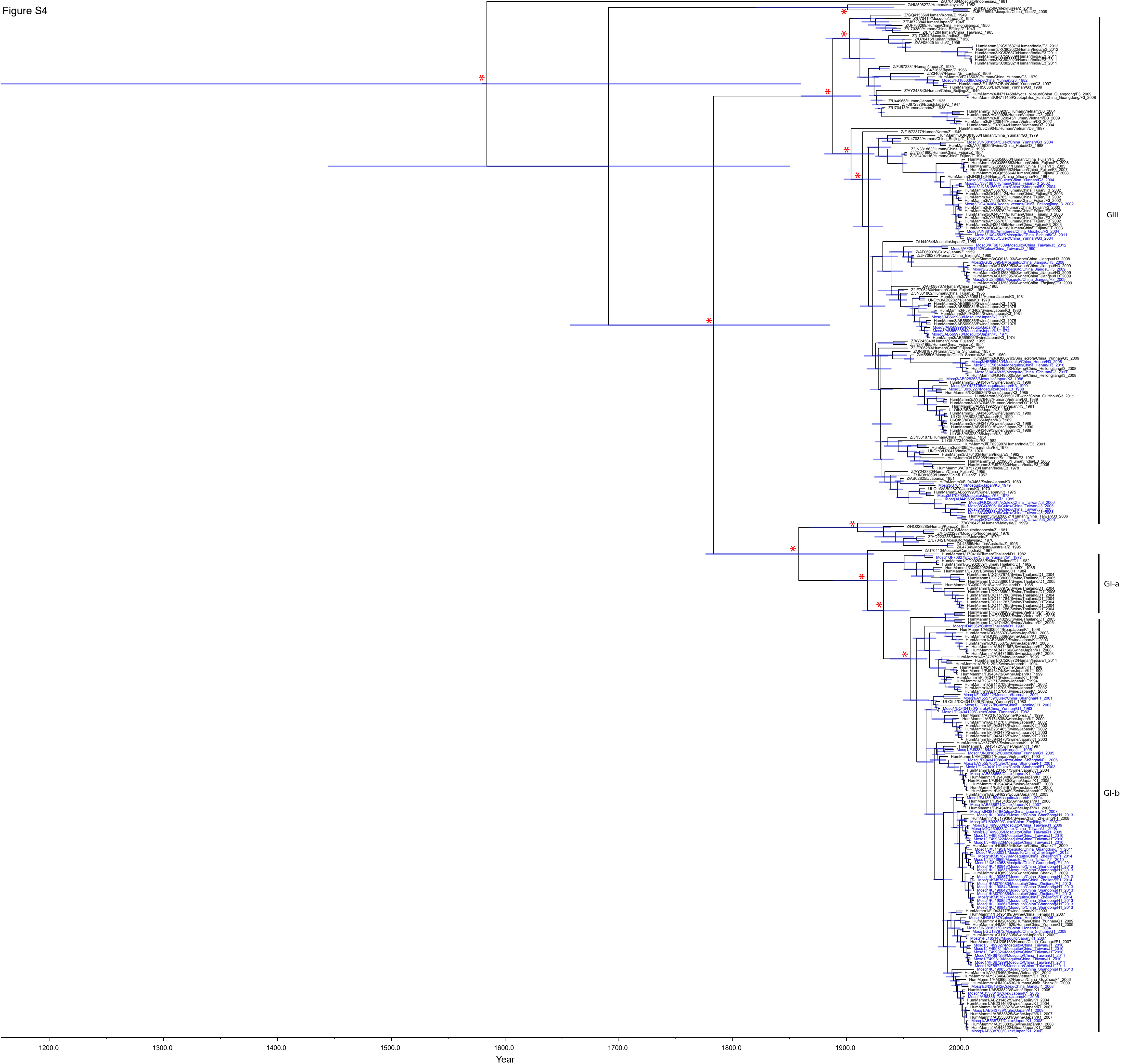
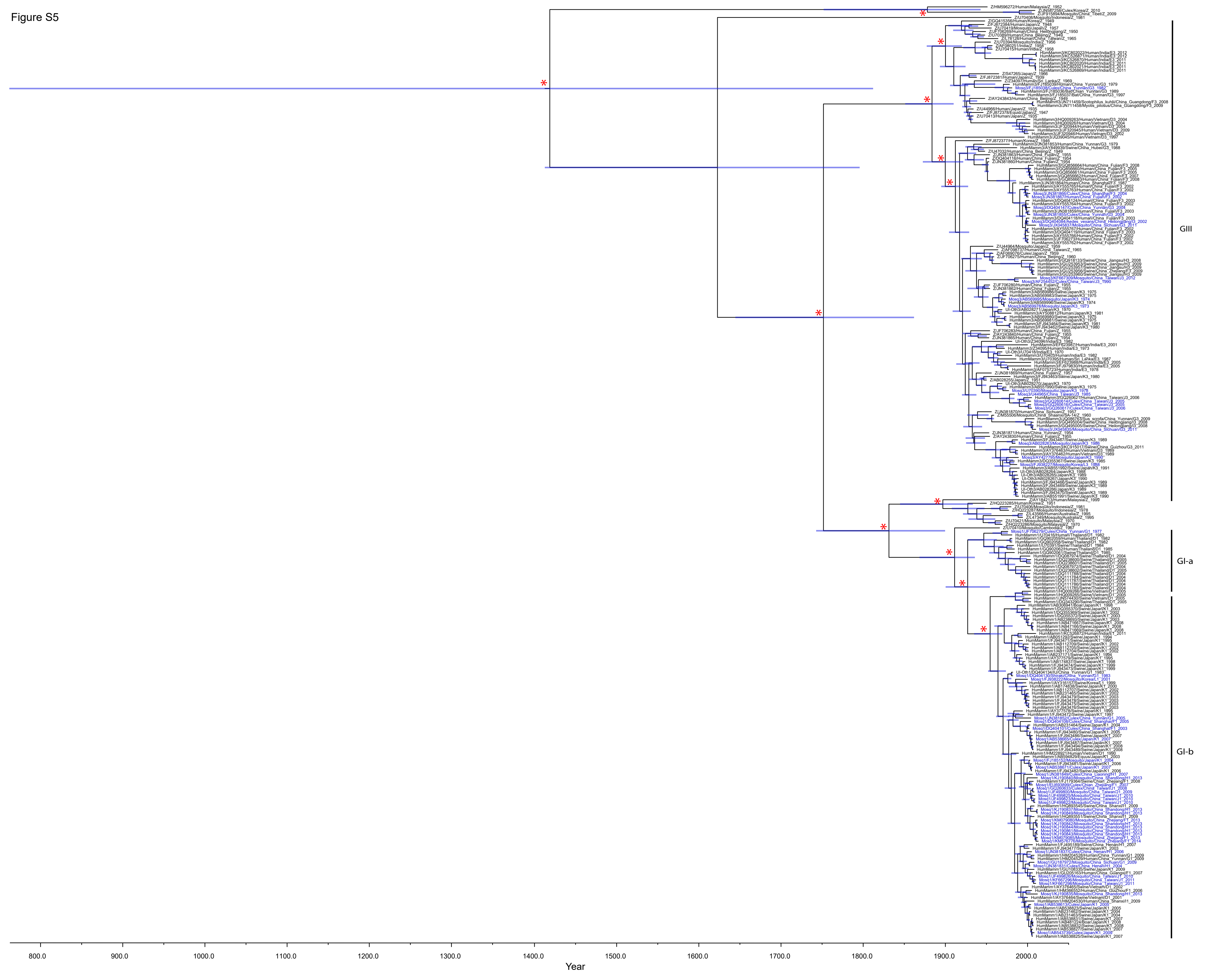


Figure S4



1200 1300 1400 1500 1600 1700 1800 1900 2000  
Year

Figure S5



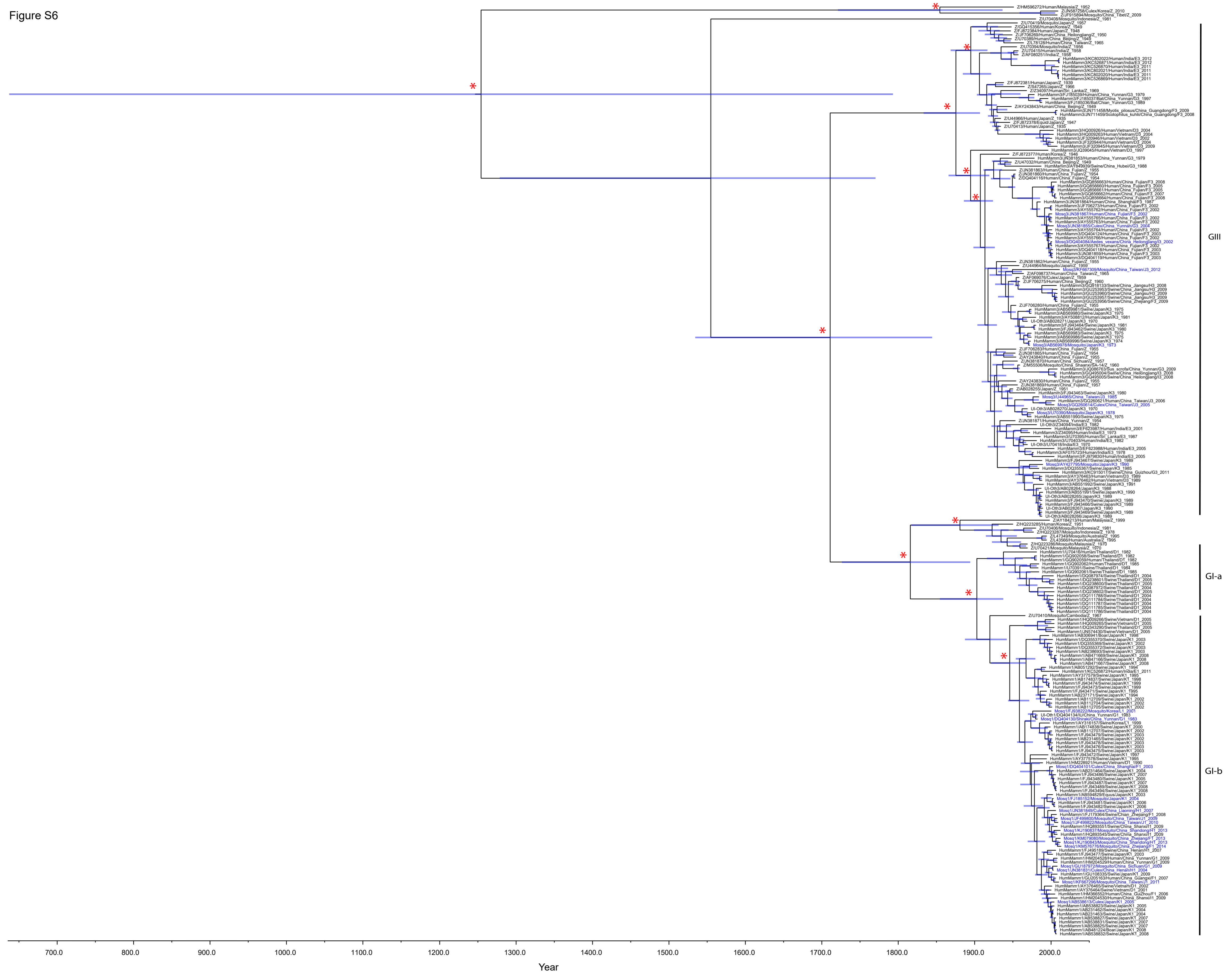


Figure S6

GIII

GI-a

GI-b

700.0 800.0 900.0 1000.0 1100.0 1200.0 1300.0 1400.0 1500.0 1600.0 1700.0 1800.0 1900.0 2000.0  
Year

Figure S7

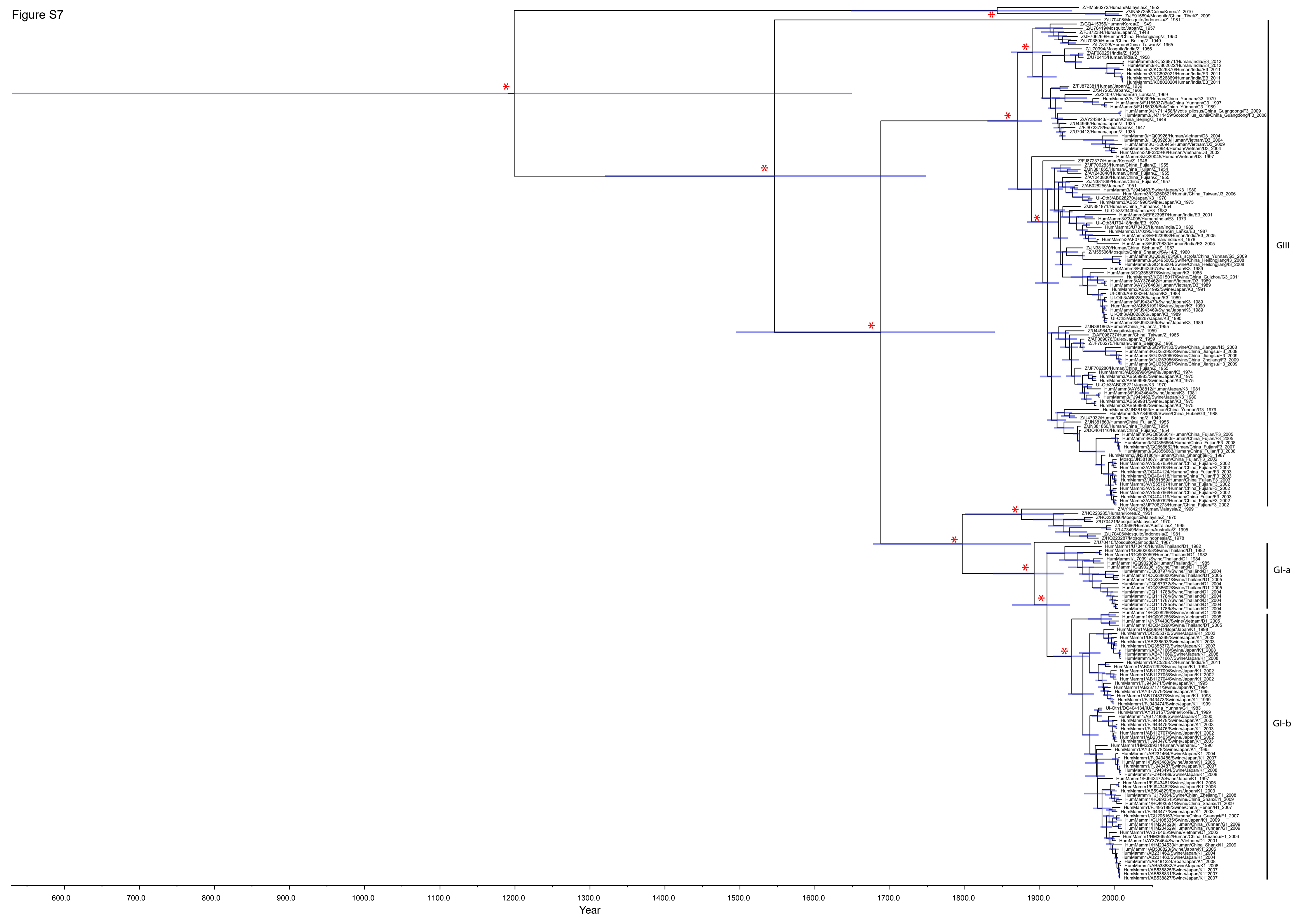
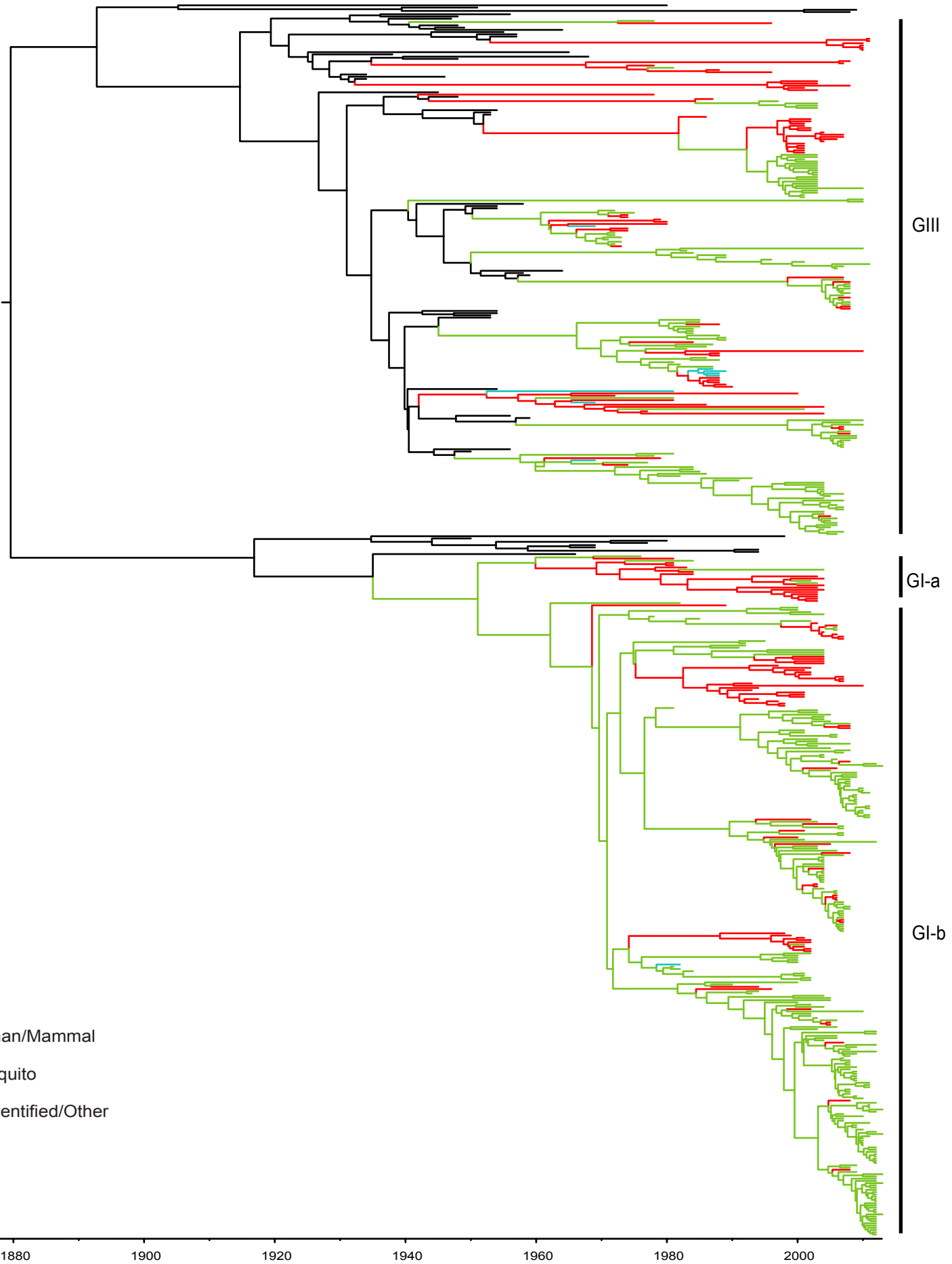




Figure S8



Host  
■ Human/Mammal  
■ Mosquito  
■ Unidentified/Other

GIII

GI-a

GI-b

1860

1880

1900

1920

1940

1960

1980

2000