

**Table S1** Morphological identification and nucleotide search identified results in the BOLD and BLASTn databases of *Culicoides* species collected from this study

| Morphological based identification | No. of sequences | BOLD Search                                                                         |                      | GenBank Search                                                        |                      |
|------------------------------------|------------------|-------------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------|----------------------|
|                                    |                  | Closest species                                                                     | Average identity (%) | Closest species                                                       | Average identity (%) |
| <i>C. actoni</i>                   | 6                | <i>C. actoni</i> (GMMSO1324-18)<br><i>Culicoides</i> sp. (GMMST622-18)              | 98.65<br>99.07       | <i>C. actoni</i> (KT352618)                                           | 99.40                |
| <i>C. arakawae</i>                 | 2                | <i>C. arakawae</i> (GBMNF24391-22)<br><i>Culicoides</i> sp. (GBAAW62226-24)         | 96.76<br>97.76       | <i>C. arakawae</i> (MZ189966)                                         | 99.56                |
| <i>C. arenicola</i>                | 1                | <i>C. arenicola</i> (CULIC1715-15)                                                  | 99.77                | <i>C. arenicola</i> (ON002391)                                        | 99.78                |
| <i>C. asiana</i>                   | 1                | <i>C. asiana</i> (CUSCR549-11)                                                      | 98.18                | <i>C. asiana</i> (MW496167)                                           | 98.25                |
| <i>C. brevipalpis</i>              | 1                | <i>C. brevipalpis</i> (CUSCR2819-14)                                                | 99.00                | <i>C. brevipalpis</i> (AB360998)                                      | 99.59                |
| <i>C. circumbasalis</i>            | 1                | <i>C. circumbasalis</i> (CUSCH750-17)                                               | 99.76                | <i>C. circumbasalis</i> (ON002403)                                    | 99.76                |
| <i>C. clavipalpis</i>              | 3                | <i>C. clavipalpis</i> (CUSCH656-16)                                                 | 95.20                | <i>C. clavipalpis</i> (OR073919.1)                                    | 91.85                |
| <i>C. fulvus</i>                   | 6                | <i>C. fulvus</i> (CUSCR2848-14)                                                     | 99.44                | <i>C. fulvus</i> (KT352206(100%), KT352643(100%))                     | 99.63                |
| <i>C. gewertzi</i>                 | 3                | <i>C. gewertzi</i> (GMMST1269-18)<br><i>Culicoides</i> sp. (CTISA5593-16)           | 99.35<br>95.59       | <i>C. gewertzi</i> (ON002368)                                         | 99.15                |
| <i>C. guttifer</i>                 | 7                | <i>C. guttifer</i> (GBMND90502-21)<br><i>Culicoides</i> sp. (GMBCN434-15)           | 98.95<br>99.06       | <i>C. guttifer</i> (MW496174)                                         | 99.23                |
| <i>C. huffi</i>                    | 11               | <i>C. huffi</i> (GMMNR773-18)<br><i>Culicoides</i> sp. (GMBCE784-15)                | 98.32<br>94.89       | <i>C. huffi</i> (OP741195(100%), MW496213(100%), KY441772(100%))      | 99.37                |
| <i>C. innoxius</i>                 | 5                | <i>C. innoxius</i> (GMMNK189-18)                                                    | 98.61                | <i>C. innoxius</i> (OR073947)                                         | 100.00               |
| <i>C. insignipennis</i>            | 5                | <i>C. insignipennis</i> (CUYUN299-19)                                               | 97.70                | <i>C. insignipennis</i> (PQ340919)                                    | 98.32                |
| <i>C. jacobsoni</i>                | 7                | <i>Culicoides</i> sp. (THAMD15852-22)                                               | 99.79                | <i>C. jacobsoni</i> (MZ189959)                                        | 99.72                |
| <i>C. liui</i>                     | 1                | <i>C. liui</i> (CULIC1702-15)                                                       | 100.00               | <i>C. liui</i> (ON002396)                                             | 99.34                |
| <i>C. mahasarakhamense</i>         | 3                | <i>C. mahasarakhamense</i> (GBMNF24438-22)<br><i>Culicoides</i> sp. (GBMND90586-21) | 99.43<br>99.19       | <i>C. mahasarakhamense</i> (MZ191855)                                 | 100.00               |
| <i>C. nigripes</i>                 | 1                | No match                                                                            | -                    | <i>C. nigripes</i> (MZ189960)                                         | 94.10                |
| <i>C. orientalis</i>               | 3                | <i>C. orientalis</i> (THAMJ5897-23)                                                 | 98.44                | <i>C. orientalis</i> (MK760223)                                       | 98.91                |
| <i>C. oxystoma</i>                 | 11               | <i>C. oxystoma</i> (GBAAW11134-24)                                                  | 98.83                | <i>C. oxystoma</i> (OQ536028)                                         | 99.23                |
| <i>C. palpifer</i>                 | 3                | <i>C. palpifer</i> (GBMNF24498-22)<br><i>Culicoides</i> sp. (GMPXA12458-23)         | 97.26<br>99.22       | <i>C. palpifer</i> (MK917492)                                         | 97.70                |
| <i>C. parahumeralis</i>            | 1                | <i>C. parahumeralis</i> (THAMD22919-23)                                             | 97.70                | <i>C. parahumeralis</i> (MH135786)                                    | 97.92                |
| <i>C. peregrinus</i>               | 14               | <i>C. peregrinus</i> (GBMND90656-21)                                                | 99.63                | <i>C. peregrinus</i> (KY433458(100%), MW496289(100%), MK917543(100%)) | 99.96                |
| <i>C. shortti</i>                  | 3                | <i>C. shortti</i> (GMMNT181-18)                                                     | 99.35                | <i>C. shortti</i> (MW496314)                                          | 99.49                |
| <i>C. subgenus Avaritia</i>        | 4                | No match                                                                            | -                    | <i>C. fulvus</i> (KT352703)                                           | 88.67                |
| <i>C. subgenus Trithecoides</i>    | 5                | <i>Dasyhelea ludingensis</i> (GMTTB5990-23)<br><i>Forcipomyia</i> (GMMSG591-18)     | 99.02<br>99.37       | <i>Ceratopogonidae</i> sp. (KX051897)                                 | 97.92                |
| <i>C. sumatrae</i>                 | 7                | <i>C. sumatrae</i> (THAMD23389-23)<br><i>Culicoides</i> sp. (THAMI9167-23)          | 99.65<br>99.48       | <i>C. sumatrae</i> (MZ191875)                                         | 99.56                |
| <i>C. tamada</i>                   | 3                | <i>C. tamada</i> (THAMD8720-22)<br><i>Culicoides</i> sp. (GMBGCG2385-15)            | 98.57<br>94.5        | <i>C. tamada</i> (ON002378)                                           | 99.30                |