**Supplementary Table 1:** **A comparison of morphological ID, *cox1* barcode ID using BOLD, and MALDI-TOF profiles for each mosquito specimen.**

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| Specimen ID | Morphological ID | Location | BOLD ID (% similarity^) | MALDI-TOF ID |
| 92-B103107 | *Aedes alternans* | Hexham | *Aedes alternans* (99.7%) | *Aedes alternans* |
| 92-B103109 | *Aedes alternans* | Hexham | *Aedes alternans* (99.7%) | *Aedes alternans* |
| 92-B103233 | *Aedes alternans* | Homebush | *Aedes alternans* (99.1%) | *Aedes alternans* |
| 92-B103246 | *Aedes flavifrons* | Bendalong | *Aedes flavifrons* (99.9%) | *Aedes flavifrons* |
| 92-B103247 | *Aedes flavifrons* | Bendalong | *Aedes flavifrons* (100%) | *Aedes flavifrons* |
| 92-B103249 | *Aedes flavifrons* | Bendalong | *Aedes flavifrons* (100%) | *Aedes flavifrons* |
| 92-B103122 | *Aedes mallochi* | Hexham | *Aedes mallochi* (99.5%) | *Aedes mallochi* |
| 92-B103157 | *Aedes mallochi* | Hexham | *Aedes mallochi* (99.7%) | *Aedes mallochi* |
| 92-B102892 | *Aedes multiplex* | Ballina | New DNA barcode, species not on BOLD | *Aedes multiplex* |
| 92-B102898 | *Aedes multiplex* | Ballina | New DNA barcode, species not on BOLD | *Aedes multiplex* |
| 92-B102900 | *Aedes multiplex* | Ballina | New DNA barcode, species not on BOLD | *Aedes multiplex* |
| 92-B103095 | *Aedes notoscriptus* | Hexham | *Aedes notoscriptus* (99.5%) | *Aedes notoscriptus* |
| 92-B103320 | *Aedes notoscriptus* | Homebush | *Aedes notoscriptus* (99.7%) | *Aedes notoscriptus* |
| 92-B103323 | *Aedes notoscriptus* | Homebush | *Aedes notoscriptus* (99.9%) | *Aedes notoscriptus* |
| 92-B103146 | *Aedes procax* | Hexham | *Aedes procax* (100%) | *Aedes procax* |
| 92-B103147 | *Aedes procax* | Hexham | *Aedes procax* (98.9%) | *Aedes procax* |
| 92-B103263 | *Aedes rubrithorax* | Berringer | *Aedes rubrithorax* (98.0%) | *Aedes rubrithorax* |
| 92-B103264 | *Aedes rubrithorax* | Berringer | *Aedes rubrithorax* (98.0%) | *Aedes rubrithorax* |
| 92-B102956 | *Aedes vigilax* | Hexham | *Aedes vigilax* (100%) | *Aedes vigilax* |
| 92-B103078 | *Aedes vigilax* | Homebush | *Aedes vigilax* (100%) | *Aedes vigilax* |
| 92-B103079 | *Aedes vigilax* | Homebush | *Aedes vigilax* (99.6%) | *Aedes vigilax* |
| 92-B103119 | *Aedes vittiger* | Hexham | *Aedes vittiger* (99.9%) | *Aedes vittiger* |
| 92-B102825 | *Anopheles annulipes* | Hexham | *Anopheles annulipes* (99.9%) | *Anopheles annulipes* |
| 92-B103241 | *Anopheles annulipes* | Homebush | *Anopheles annulipes* (98.9%) | *Anopheles annulipes* |
| 92-B103279 | *Anopheles annulipes* | Homebush | *Anopheles annulipes* (98.9%) | *Anopheles annulipes* |
| 92-B102848 | *Coquillettidia linealis* | Hexham | *Coquillettidia linealis* (99.9%) | *Coquillettidia linealis* |
| 92-B102851 | *Coquillettidia linealis* | Hexham | *Coquillettidia linealis* (100%) | *Coquillettidia linealis* |
| 92-B103212 | *Coquillettidia linealis* | Homebush | *Coquillettidia linealis* (100%) | *Coquillettidia linealis* |
| 92-B102912 | *Coquillettidia xanthogaster* | Ballina | *Coquillettidia xanthogaster* (100%) | *Coquillettidia xanthogaster* |
| 92-B102913 | *Coquillettidia xanthogaster* | Ballina | *Coquillettidia xanthogaster* (100%) | *Coquillettidia xanthogaster* |
| 92-B103219 | *Coquillettidia xanthogaster* | Homebush | *Coquillettidia xanthogaster* (100%) | *Coquillettidia xanthogaster* |
| 92-B102966 | *Culex annulirostris* | Hexham | *Culex annulirostris* (99.7%) | *Culex annulirostris* |
| 92-B102878 | *Culex annulirostris* | Homebush | *Culex annulirostris* (100%) | *Culex annulirostris* |
| 92-B103283 | *Culex australicus* | Homebush | *Culex australicus* (100%) | *Culex australicus* |
| 92-B103286 | *Culex australicus* | Homebush | *Culex australicus* (99.4%) | *Culex australicus* |
| 92-B103189 | *Culex australicus* | Homebush | *Culex australicus* (99.4%) | *Culex australicus* |
| 92-B103288 | *Culex australicus* | Homebush | *Culex australicus* (99.8%) | *Culex australicus* |
| 92-B103289 | *Culex australicus* | Homebush | *Culex australicus* (99.4%) | *Culex australicus* |
| 92-B103290 | *Culex australicus* | Homebush | *Culex australicus* (99.8%) | *Culex australicus* |
| 92-B103300 | *Culex pipiens molestus* | Homebush | *Culex molestus / C. quinquefasiatus* (100%) \* | *Culex pipiens molestus* |
| 92-B103303 | *Culex pipiens molestus* | Homebush | *Culex molestus / C. quinquefasiatus* (100%) \* | *Culex pipiens molestus* |
| 92-B103307 | *Culex pipiens molestus* | Homebush | *Culex molestus / C. quinquefasiatus* (100%) \* | *Culex pipiens molestus* |
| 92-B103055 | *Culex orbostiensis* | Ballina | New DNA barcode, species not on BOLD | *Culex orbostiensis* |
| 92-B103058 | *Culex orbostiensis* | Ballina | New DNA barcode, species not on BOLD | *Culex orbostiensis* |
| 92-B102796 | *Culex orbostiensis* | Hexham | New DNA barcode, species not on BOLD | *Culex orbostiensis* |
| 92-B103132 | *Culex quinquefasciatus* | Hexham | *Culex molestus / C. quinquefasiatus* (100%) \* | *Culex quinquefasciatus* |
| 92-B103165 | *Culex quinquefasciatus* | Homebush | *Culex molestus / C. quinquefasiatus* (100%) \* | *Culex quinquefasciatus* |
| 92-B103169 | *Culex quinquefasciatus* | Homebush | *Culex molestus / C. quinquefasiatus* (100%) \* | *Culex quinquefasciatus* |
| 92-B102927 | *Culex sitiens* | Ballina | *Culex sitiens* (99.9%) | *Culex sitiens* |
| 92-B102974 | *Culex sitiens* | Homebush | *Culex sitiens* (99.4%) | *Culex sitiens* |
| 92-B102975 | *Culex sitiens* | Homebush | *Culex sitiens* (100%) | *Culex sitiens* |
| 92-B102940 | *Mansonia uniformis* | Ballina | *Mansonia uniformis* (99.8%) | *Mansonia uniformis* |
| 92-B102829 | *Mansonia uniformis* | Hexham | *Mansonia uniformis* (100%) | *Mansonia uniformis* |
| 92-B102869 | *Mansonia uniformis* | Homebush | *Mansonia uniformis* (99.9%) | *Mansonia uniformis* |
| 92-B103160 | *Verralina funerea* | Hexham | New DNA barcode, species not on BOLD | *Verralina funerea* |
| 92-B103162 | *Verralina funerea* | Hexham | New DNA barcode, species not on BOLD | *Verralina funerea* |
| 92-B103267 | *Aedes australis* | Audley | New DNA barcode, species not on BOLD | *Aedes australis* |
| 92-B103269 | *Aedes australis* | Audley | New DNA barcode, species not on BOLD | *Aedes australis* |

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| \* Species complex, unable to be resolved using *cox1* DNA barcodes  ^ Values in brackets represent the closest percentage match of the *cox1* sequence to existing mosquito species on BOLD. |