Table S4 Summary of taxonomic groups used in this study.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sequence Name** | **Superfamily** | **Family** | **Accession Number** | **Reference** |
| *Alloxysta* sp. | Cynipoidea | Figitidae | MG923482 | Tang et al. 2019 |
| *Cotesia vestalis* | Ichneumonoidea | Braconidae | FJ154897 | Wei et al. 2010 |
| ***Dryocosmus liui*** | **Cynipoidea** | **Cynipidae** | **MW368384** | **this study** |
| *Diadegma semiclausum* | Ichneumonoidea | Ichneumonidae | EU871947 | Wei et al. 2009 |
| *Diaphorencyrtus aligarhensis* | Chalcidoidea | Encyrtidae | NC046058 | Du et al. 2019 |
| *Exallonyx* sp. | Proctotrupoidea | Proctotrupidae | MG923495 | Tang et al. 2019 |
| *Encarsia formosa* | Chalcidoidea | Aphelinidae | MG813797 | Zhu et al. 2018 |
| *Hyposoter* sp. | Ichneumonoidea | Ichneumonidae | MG923499 | Tang et al. 2019 |
| *Habrobracon hebetor* | Ichneumonoidea | Braconidae | MN842279 | Huang et al. 2020 |
| *Habroteleia persimilis* | Platygastroidea | Scelionidae | MG923508 | Tang et al. 2019 |
| *Ibalia leucospoides* | Cynipoidea | Ibaliidae | KJ814197 | Mao et al. 2015 |
| *Ismarus* sp. | Proctotrupoidea | Diapriidae | MG923501 | Tang et al. 2019 |
| *Platygaster* sp1 | Platygastroidea | Platygastridae | MG923510 | Tang et al. 2019 |
| *Pteromalus puparum* | Chalcidoidea | Pteromalidae | NC039656 | unpublished |
| *Pelecinus polyturator* | Proctotrupoidea | Pelecinidae | NC026865 | Mao et al. 2015 |
| *Platygaster* sp2 | Platygastroidea | Platygastridae | MG923507 | Tang et al. 2019 |
| *Synergus* sp. | Cynipoidea | Cynipidae | MG923514 | Tang et al. 2019 |
| *Tamarixia radiata* | Chalcidoidea | Eulophidae | MN123622 | Du et al. 2019 |
| *Trichagalma acutissimae* | Cynipoidea | Cynipidae | MN928529 | Xue et al. 2020 |
| *Trichopria drosophilae* | Proctotrupoidea | Diapriidae | MN966974 | Zhang et al. 2020 |
| *Telenomus* sp. | Platygastroidea | Scelionidae | MF776884 | Shen et al. 2019 |
| *Trichogramma dendrolimi* | Chalcidoidea | Trichogrammatidae | KU836507 | unpublished |
| *Vanhornia eucnemidarum* | Proctotrupoidea | Vanhorniidae | DQ302100 | Castro et al., 2006 |

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