Summary of 15 phylogenomic datasets examined in this study.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Study ID | Dataset | Taxon Level | No.Taxa | NoLoci | Sampling Method | DataType | Study Reference |
| Bee | Animal: Bees | Genus | 190 | 753 | UCE | DNA | Blaimer et al. Evolution, 2018 1 |
| Bird | Animal: Birds | Class | 200 | 259 | AHE | DNA | Prum et al. Nature, 2015 2 |
| Butterfly | Animal: Butterflies | Order | 207 | 352 | AHE | DNA | Espeland et al. Current Biology, 2018 3 |
| Lizard | Animal: Lizards | Genus | 29 | 1361 | Exon-Capture | DNA | Blom et al. Syst Biol, 2017 4 |
| Marine-fish | Animal: Marine fishes | Superorder | 120 | 1001 | UCE | DNA | Alfaro et al. 2018, Nat. Ecol. Evol. 5 |
| Rodent | Animal: Rodents | Family | 37 | 1245 | Exon-Capture | DNA | Roycroft et al. Syst Biol, 2019 6 |
| Cardueae | Plant: Cardueae | Family | 85 | 570 | UCE | DNA | Herrando-Moraira et al. Mol Phyloge Evol, 20187 |
| Caryophyllales | Plant: Caryophyllales | Order | 95 | 1122 | Transcriptome | AA | Yang et al. Mol Biol Evol, 2015 8 |
| Green-Plants | Plant: Green plants | Phylum | 1178 | 410 | Transcriptome | AA | 1KP Initiative 2019, Nature 9 |
| Jaltomata | Plant: Jaltomata | Genus | 15 | 6431 | Transcriptome | DNA | Wu et al. Mol Ecol, 2018 10 |
| Protea | Plant: Protea | Genus | 65 | 498 | AHE | DNA | Mitchell et al. American Journal of Botany, 2017 11 |
| Aspergillaceae | Fungi: Aspergillaceae | Order | 93 | 1668 | Genome | DNA | Steenwyk et al. mBio, 2019 12 |
| Saccharomycotina-Cell | Fungi: Budding yeasts | Subphylum | 343 | 2408 | Genome | AA | Shen et al. 2018, Cell 13 |
| Hanseniaspora | Fungi: Hanseniaspora | Family | 29 | 1033 | Genome | AA | Steenwyk et al. PloS Biol, 2019 14 |
| Rhizoplaca | Fungi: Rhizoplaca | Genus | 31 | 303 | Genome | DNA | Leavitt et al., Sci Rep, 2016 15 |

UCE: Ultraconserved Element, AHE: Anchored Hybrid Enriched, DNA: deoxyribonucleic acid, AA: amino acid.

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