Table 1. Taxa included in this study. The number of taxa in subgroups is given in parentheses. Taxa followed by **†** have no plastome available. *Spikelet* indicates spikelets will be modeled. *Microscope*indicates pollen of taxa selected for **L**ight Microscopy**, T**ransmission Electron Microscopy, and **S**canning Electron Microscopy.

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| POACEAE 182 + Early-diverging lineages (4) = 186 |
| Early Diverging Lineages:  Ecdeiocoleaceae (2) - *Ecdeiocolea monostachya***TS***, Georgeantha hexandra***TS**  Flagellariaceae (1) - *Flagellaria indica***TS**  Joinvilleaceae (1) - *Joinvillea ascendens***TS** |
| Anomochlooideae (2) - *Anomochloa marantoidea***LTS***, Streptochaeta spicata* **LTS** |
| Aristidoideae (3) - *Aristida purpurea* **LTS***, Sartidia, Stipagrostis hirtiglumis* **TS** |
| Arundinioideae (5) - *Arundo donax***†****TS***, Elytrophorus,* *Monachather,*  *Phragmites australis* **LTS***, Hakonechloa* |
| Bambusoideae (33) - *Acidosasa,* *Arundinaria gigantea* **TS***, Bambusa, Bashania, Buergersiochloa, Chusquea, Cryptochloa, Dendrocalamus, Diandrolyra, Drepanostachyum, Eremitis, Fargesia, Gelidocalamus, Greslania, Guadua angustifolia* **TS***, Hickelia, Indocalamus,*  *Lithachne pauciflora* **LTS***, Neololeba, Oligostachyum, Olmeca, Olyra, Otatea, Pariana, Phyllostachys, Pleioblastus, Pseudosasa, Raddia brasilliensis***L***, Rhipidocladum, Sarocalamus, Sasa, Shibataea, Thamnocalamus* |
| Chloridoideae (20) - *Astrebla,* *Bouteloua curtipendula***LTS***, Bouteloua gracilis***L***, Centropodia glauca***TS***, Chloris, Dactyloctenium, Distichlis, Eragrostis, Eustachys, Halopyrum, Hilaria, Leptochloa, Melanocenchris, Neyraudia, Oxychloris, Sporobolus, Trichoneura, Triodia, Uniola, Zoysia* |
| Danthonioideae (6) - *Chaetobromus,* *Chionochloa, Danthonia spicata***LTS***, Rytidosperma, Tenaxia, Tribolium* |
| Micrairoideae (3) - *Eriachne sp.* **TS***,* Isachne*, Micraira sp.* **TS** |
| Oryzoideae (10) - *Ehrharta erecta***LTS***,* *Humbertochloa, Leersia virginica***L***, Microlaena, Oryza, Potamophila, Prosphytochloa, Rhynchoryza, Streptogyna americana***TS***,*  *Zizania palustris***TS** |
| Panicoideae (47) - *Alloteropsis,* *Amphicarpum, Arthraxon, Arundinella, Axonopus, Bothriochloa, Capillipedium, Cenchrus, Centotheca lappacea***LTS***, Chasmanthium latifolium***LTS,** *Coix, Coleataenia, Danthoniopsis dinteri***TS***, Dichanthelium latifolium***L***,*  *Dichanthelium oligosanthes***L***, Digitaria, Diheteropogon, Echinochloa crusgalli***LTS***, Eriochloa, Eulalia, Gynerium sagittatum***†****TS***, Hyparrhenia, Imperata, Ischaemum, Iseilema, Lecomtella, Loudetiopsis, Megathyrsus, Oncorachis, Oplismenus, Otachyrium, Panicum virgatum***LTS***, Paspalum, Plagiantha, Rottboellia, Saccharum, Setaria, Sorghastrum, Sorghum, Steinchisma, Themeda, Thyridolepis, Thysanolaena, Urochloa, Whiteochloa, Zea, Zeugites pittieri***L** *­* |
| Pharoideae (2) - *Leptaspis zeylanica***TS***, Pharus latifolius***LTS** |
| Pooideae (49) - *Aegilops*, *Agrostis, Alopecurus, Ampelodesmos, Anthoxanthum, Avena, Brachyelytrum erectum***LTS***, Brachypodium distachyon***TS***, Briza, Bromus, Calamagrostis, Catapodium, Connorochloa, Cynosurus, Dactylis, Deschampsia, Diarrhena obovata***LTS***, Drymochloa, Elymus hystrix***†****L***, Elymus virginicus***†****L***, Eriocoma, Festuca paradoxa***L***, Festuca subverticillata***L***, Gastridium, Glyceria striata***†****TS***, Hesperostipa spartea***†****TS***, Holcus, Hordeum, Lamarckia, Lolium, Lygeum, Melica, Nardus, Nassella, Oryzopsis, Phaenosperma, Phalaris, Phleum, Piptatherum, Piptochaetium, Poa pratensis***L***, Poa sylvestris***L***, Puccinellia, Secale, Taeniatherum, Torreyochloa, Trisetum, Triticum, Zingeria* |
| Puelioideae (2) - *Puelia sp.* **TS***, Guaduella sp.* **TS** |