Figures S3: Each figure corresponds to one node: Top alternative topology at corresponding node generated with PhyParts. Node numbers correspond to the node numbers on the phylogeny in Figure S2. The number of agreeing gene trees with this alternative topology corresponds to the orange part of the pie chart in Figure

1b and Figure S2.

First alternative topology for node 1. Number of agreeing gene trees: 17

Podoccocus barteri 1 Dypsis mananjarensis Podoccocus barteri 2 Podoccocus acaulis Orania sylvicola 2 Orania trispatha Orania lauterbachiana 1 Orania lauterbachiana 1 Orania ravaka 2 Orania longisquama Orania lauterbachiana 3 Orania lauterbachiana 3 Orania lauterbachiana 2 Orania ravaka 1 Orania grandiflora Orania dafonsoroensis Sclerosperma mannii 2 Orania tabubilensis Sclerosperma walkeri 1 Sclerosperma walkeri 1 Sclerosperma walkeri 2 Orania palindan 2 Orania palindan 1 Orania deflexa
Orania deflexa Orania macropetala
Orania archboldiana

First alternative topology for node 3. Number of agreeing gene trees: 13

——Orania lauterbachiana 1
——Orania lauterbachiana 3
——Orania lauterbachiana 2
——Orania grandiflora
Orania dafonsoroensis
——Dypsis mananjarensis
Podoccocus barteri 2
Orania tabubilensis
Orania deflexa
Orania archboldiana
——Orania sylvicola 2
Orania trispatha
——Orania sylvicola 1
——Orania ravaka 2
——Orania longisquama
Orania ravaka 3
Orania ravaka 1
——Sclerosperma mannii 2
Sclerosperma mannii 1
——Sclerosperma walkeri 1
 ——Sclerosperma walkeri 2
 Orania timikae
Orania palindan 2
Orania palindan 1
——Orania macropetala
⊢Podoccocus barteri 1
Podoccocus acaulis

First alternative topology for node 5. Number of agreeing gene trees: 10

	 Orania sylvicola 2 Orania trispatha Orania sylvicola 1 Orania lauterbachiana 1 Orania ravaka 2 Orania longisquama Orania ravaka 3 Orania lauterbachiana 3 Orania lauterbachiana 2 Orania grandiflora Orania dafonsoroensis Podoccocus barteri 1 Dypsis mananjarensis Podoccocus barteri 2 Sclerosperma mannii 2 Orania tabubilensis Orania talindan 2
	——Orania tabubilensis ——Orania timikae
	Orania palindan 2 Orania palindan 1 Orania deflexa
	Orania macropetala Orania archboldiana
L	Podoccocus acaulis Sclerosperma walkeri 1 Sclerosperma walkeri 2 Sclerosperma mannii 1

First alternative topology for node 6. Number of agreeing gene trees: 9

Orania lauterbachiana 1 Orania lauterbachiana 3 Orania lauterbachiana 2 Orania grandiflora Orania dafonsoroensis Podoccocus barteri 1 Dypsis mananjarensis Podoccocus barteri 2 Orania tabubilensis Orania deflexa Orania archboldiana Podoccocus acaulis Orania sylvicola 2 Orania trispatha Orania ravaka 2 Orania longisquama Orania ravaka 3 Orania ravaka 1 Sclerosperma mannii 2 Sclerosperma walkeri 1
Sclerosperma walkeri 1 Orania timikae Orania palindan 2 Orania palindan 1 Orania macropetala Sclerosperma walkeri 2
Sclerosperma mannii 1

First alternative topology for node 7. Number of agreeing gene trees: 5

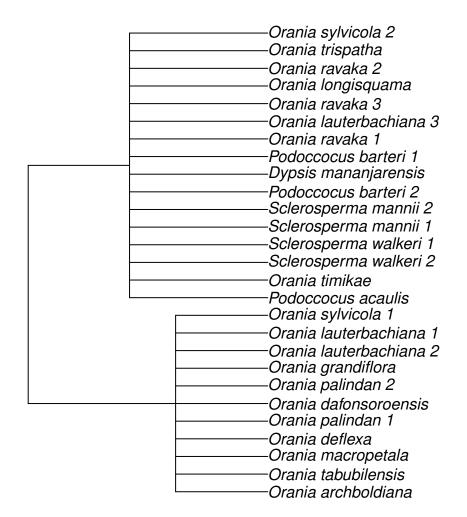
	Orania ravaka 1 Dypsis mananjarensis Orania lauterbachiana 1 Orania lauterbachiana 2 Orania grandiflora Orania dafonsoroensis Podoccocus barteri 1 Podoccocus barteri 2 Orania tabubilensis Orania deflexa Orania archboldiana Podoccocus acaulis Orania sylvicola 2 Orania trispatha Orania ravaka 2 Orania longisquama Orania ravaka 3 Sclerosperma mannii 1 Sclerosperma walkeri 1 Sclerosperma walkeri 1
	Orania timikae
-	——Orania palindan 2
	——Orania palindan 1
	Orania macropetala

First alternative topology for node 8. Number of agreeing gene trees: 1

—————————Orania trispatha —————Orania sylvicola 1 ————Orania lauterbachiana 1
Orania ravaka 2
————Orania longisquama ——Orania ravaka 3
Orania lauterbachiana 2
Orania ravaka 1
Orania grandiflora
Orania dafonsoroensis
Dypsis mananjarensis
Sclerosperma mannii 2
Orania tabubilensis
Sclerosperma mannii 1 Sclerosperma walkeri 1
Sclerosperma walkeri 2
————Orania palindan 2
————Orania palindan 1
Orania deflexa
————Orania macropetala
Orania archboldiana
Orania sylvicola 2
——Orania timikae
Orania lauterbachiana 3
——Podoccocus barteri 1
Podoccocus barteri 2
Podoccocus acaulis

First alternative topology for node 9. Number of agreeing gene trees: 9

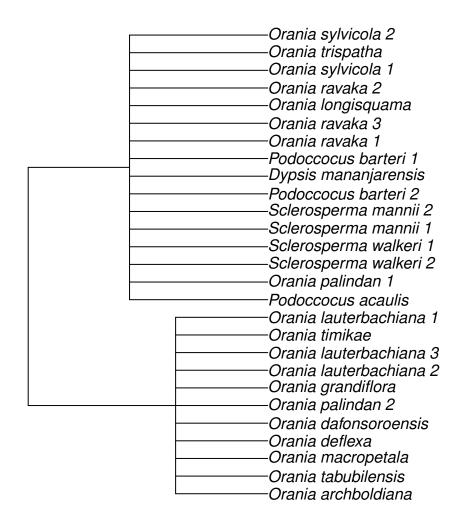
First alternative topology for node 10. Number of agreeing gene trees: 1



First alternative topology for node 11. Number of agreeing gene trees: 4

Orania lauterbachiana 1 Orania lauterbachiana 3 Orania lauterbachiana 2 Orania grandiflora Podoccocus barteri 1 Dypsis mananjarensis Podoccocus barteri 2 Orania tabubilensis Orania deflexa Orania archboldiana Podoccocus acaulis Orania sylvicola 2 Orania trispatha Orania ravaka 2 Orania longisquama Orania ravaka 3 Orania ravaka 1 Sclerosperma mannii 1 Sclerosperma walkeri 1 Sclerosperma walkeri 2 Orania palindan 2 Orania macropetala
Orania macropetala
Orania timikae Orania dafonsoroensis

First alternative topology for node 12. Number of agreeing gene trees: 4



First alternative topology for node 13. Number of agreeing gene trees: 3

Orania lauterbachiana 1 Orania lauterbachiana 2 Orania dafonsoroensis Podoccocus barteri 1 Dypsis mananjarensis Podoccocus barteri 2 Orania tabubilensis Orania deflexa Orania archboldiana Podoccocus acaulis Orania sylvicola 2 Orania trispatha
Orania sylvicola 1 Orania ravaka 2 Orania longisquama Orania ravaka 3 Orania ravaka 1 Sclerosperma mannii 2 Sclerosperma walkeri 1 Sclerosperma walkeri 1 Sclerosperma walkeri 2 Orania timikae Orania palindan 2 Orania palindan 1 Orania macropetala Orania grandiflora

First alternative topology for node 14. Number of agreeing gene trees: 3

	Orania lauterbachiana 1 Orania lauterbachiana 2 Orania grandiflora Orania dafonsoroensis Podoccocus barteri 1
	——Dypsis mananjarensis
	——Podoccocus barteri 2
	Orania tabubilensis
	Orania deflexa
	Orania archboldiana
	——Podoccocus acaulis
	——Orania sylvicola 2
	——Orania trispatha
	——Orania sylvicola 1
	——Orania ravaka 2
	Orania longisquama
	——Orania ravaka 3
	——Orania ravaka 1
	——Sclerosperma mannii 2
	——Sclerosperma mannii 1
	——Sclerosperma walkeri 1
	——Sclerosperma walkeri 2
	——Orania timikae
	——Orania palindan 2
L	——Orania palindan 1
	Orania lauterbachiana 3
	└Orania macropetala

First alternative topology for node 15. Number of agreeing gene trees: 4

Orania sylvicola 2
Orania trispatha
————Orania sylvicola 1
Orania lauterbachiana 1
————Orania ravaka 2
————Orania longisquama
————Orania ravaka 3
Orania lauterbachiana 2
Orania ravaka 1
Orania grandiflora
———Orania dafonsoroensis
Podoccocus barteri 1
————Dypsis mananjarensis
Podoccocus barteri 2
—————————Sclerosperma mannii 2
————Orania tabubilensis
—————————Sclerosperma mannii 1
————————Sclerosperma walkeri 1
Sclerosperma walkeri 2
Orania timikae
———Orania palindan 2
Orania palindan 1
Orania deflexa
——————————————————————————————————————
r odoccocus acadiis —Orania lauterbachiana 3
 —————Orania macropetala
 —Orania archboldiana
—Orania archiboldiana

First alternative topology for node 16. Number of agreeing gene trees: 4

Orania lauterbachiana 1 Orania lauterbachiana 3 Orania lauterbachiana 2 Orania grandiflora Podoccocus barteri 1 Dypsis mananjarensis Podoccocus barteri 2 Orania tabubilensis Orania deflexa Orania archboldiana Podoccocus acaulis Orania sylvicola 2 Orania trispatha Orania ravaka 2 Orania ravaka 2 Orania longisquama Orania ravaka 3 Orania ravaka 1 Sclerosperma mannii 1 Sclerosperma walkeri 1 Sclerosperma walkeri 2 Orania palindan 2 Orania macropetala
Orania timikae Orania dafonsoroensis
Orania dalonsoloensis

First alternative topology for node 17. Number of agreeing gene trees: 5

 Orania lauterbachiana 1 Orania lauterbachiana 3 Orania lauterbachiana 2 Orania grandiflora Orania dafonsoroensis Podoccocus barteri 1
——Dypsis mananjarensis
——Podoccocus barteri 2
Orania deflexa
——Orania archboldiana
——Podoccocus acaulis
Orania sylvicola 2
——Orania trispatha
——Orania sylvicola 1
——Orania ravaka 2
Orania longisquama
——Orania ravaka 3
——Orania ravaka 1
——Sclerosperma mannii 2
——Sclerosperma mannii 1 ——Sclerosperma walkeri 1
——Scierosperma walkeri 2
——Scierosperma waiken 2 ——Orania palindan 2
——Orania palindan 2 ——Orania palindan 1
——Orania paindan 1 ——Orania macropetala
•
Orania timikae Orania tabubilensis
-Orania labubilensis

First alternative topology for node 18. Number of agreeing gene trees: 5

Orania lauterbachiana 1 Orania lauterbachiana 3 Orania lauterbachiana 2 Orania grandiflora Orania dafonsoroensis Podoccocus barteri 1 Dypsis mananjarensis Podoccocus barteri 2 Orania deflexa Orania archboldiana Podoccocus acaulis Orania sylvicola 2 Orania trispatha Orania ravaka 2 Orania longisquama Orania ravaka 3 Orania ravaka 1 Sclerosperma mannii 1 Sclerosperma walkeri 1 Sclerosperma walkeri 1 Sclerosperma walkeri 2 Orania palindan 2 Orania macropetala
Orania macropetala Orania timikae Orania tabubilensis
5.aa tazaononoio

First alternative topology for node 19. Number of agreeing gene trees: 5

 Orania lauterbachiana 1 Orania lauterbachiana 3 Orania lauterbachiana 2 Orania grandiflora Orania dafonsoroensis Podoccocus barteri 1 Dypsis mananjarensis Podoccocus barteri 2 Orania deflexa Orania archboldiana Podoccocus acaulis Orania sylvicola 2 Orania sylvicola 1
——Orania ravaka 2 ——Orania longisquama ——Orania ravaka 3
——Orania ravaka 1 ——Sclerosperma mannii 2
Sclerosperma mannii 1
——Sclerosperma walkeri 1
——Sclerosperma walkeri 2 ——Orania palindan 2
——Orania palindan 1
——Orania macropetala
⊢Orania timikae
Orania tabubilensis

First alternative topology for node 20. Number of agreeing gene trees: 3

Orania lauterbachiana 1 Orania lauterbachiana 3 Orania grandiflora Orania dafonsoroensis Podoccocus barteri 1 Dypsis mananjarensis Podoccocus barteri 2 Orania deflexa Orania archboldiana Podoccocus acaulis Orania sylvicola 2 Orania sylvicola 1
Orania ravaka 2 Orania longisquama Orania ravaka 3 Orania ravaka 1 Sclerosperma mannii 2 Sclerosperma mannii 1 Sclerosperma walkeri 1 Sclerosperma walkeri 2 Orania timikae Orania palindan 2 Orania macropetala
Orania Indorepotata Orania lauterbachiana 2 Orania tabubilensis

First alternative topology for node 21. Number of agreeing gene trees: 5

Orania ravaka 1 Dypsis mananjarensis Orania lauterbachiana 1 Orania lauterbachiana 2 Orania grandiflora Orania dafonsoroensis Podoccocus barteri 1 Podoccocus barteri 2 Orania tabubilensis Orania archboldiana Podoccocus acaulis Orania archboldiana Podoccocus acaulis Orania sylvicola 2 Orania trispatha Orania ravaka 2 Orania longisquama Orania ravaka 3 Sclerosperma mannii 1 Sclerosperma walkeri 1 Sclerosperma walkeri 2 Orania timikae Orania palindan 2
Orania palindan 1
Orania macropetala

First alternative topology for node 22. Number of agreeing gene trees: 8

Orania lauterbachiana 1 Orania lauterbachiana 3 Orania lauterbachiana 2 Orania grandiflora Orania dafonsoroensis Podoccocus barteri 1 Dypsis mananjarensis Podoccocus barteri 2 Orania tabubilensis Orania deflexa Orania archboldiana Podoccocus acaulis Orania sylvicola 2 Orania sylvicola 1 Orania ravaka 2 Orania ravaka 3 Orania ravaka 1 Sclerosperma mannii 1 Sclerosperma walkeri 1 Sclerosperma walkeri 2 Orania palindan 2 Orania palindan 1
Orania Inspatria —Orania longisquama

First alternative topology for node 23. Number of agreeing gene trees: 5

Orania sylvicola 2
————Orania sylvicola 1
————Orania lauterbachiana 1
—————Orania ravaka 2
—————Orania longisquama
——————————Orania longisquama —————Orania lauterbachiana 3
————————————Orania lauterbachiana 3 —————Orania lauterbachiana 2
———————————Orania lauterbachiana 2 —————Orania grandiflora
————Orania dafonsoroensis
Podoccocus barteri 1
——————————————————————————————————————
Podoccocus barteri 2
Sclerosperma mannii 2
Orania tabubilensis
Sclerosperma mannii 1
Sclerosperma walkeri 1
Sclerosperma walkeri 2
Orania timikae
————Orania palindan 2
————Orania palindan 1
Orania deflexa
Orania macropetala
Orania archboldiana
Podoccocus acaulis
—Orania trispatha
Orania ravaka 3
└─Orania ravaka 1

First alternative topology for node 24. Number of agreeing gene trees: 5

Orania ravaka 1 Dypsis mananjarensis Orania lauterbachiana 1 Orania lauterbachiana 2 Orania grandiflora Orania dafonsoroensis Podoccocus barteri 1 Podoccocus barteri 2 Orania tabubilensis Orania archboldiana Podoccocus acaulis Orania archboldiana Podoccocus acaulis Orania sylvicola 2 Orania trispatha Orania ravaka 2 Orania longisquama Orania ravaka 3 Sclerosperma mannii 1 Sclerosperma walkeri 1 Sclerosperma walkeri 1 Sclerosperma walkeri 2 Orania palindan 2 Orania palindan 1
Orania macropetala