

Supplementary Table 1. List of repositories of global/national/regional catalogues of invasive species

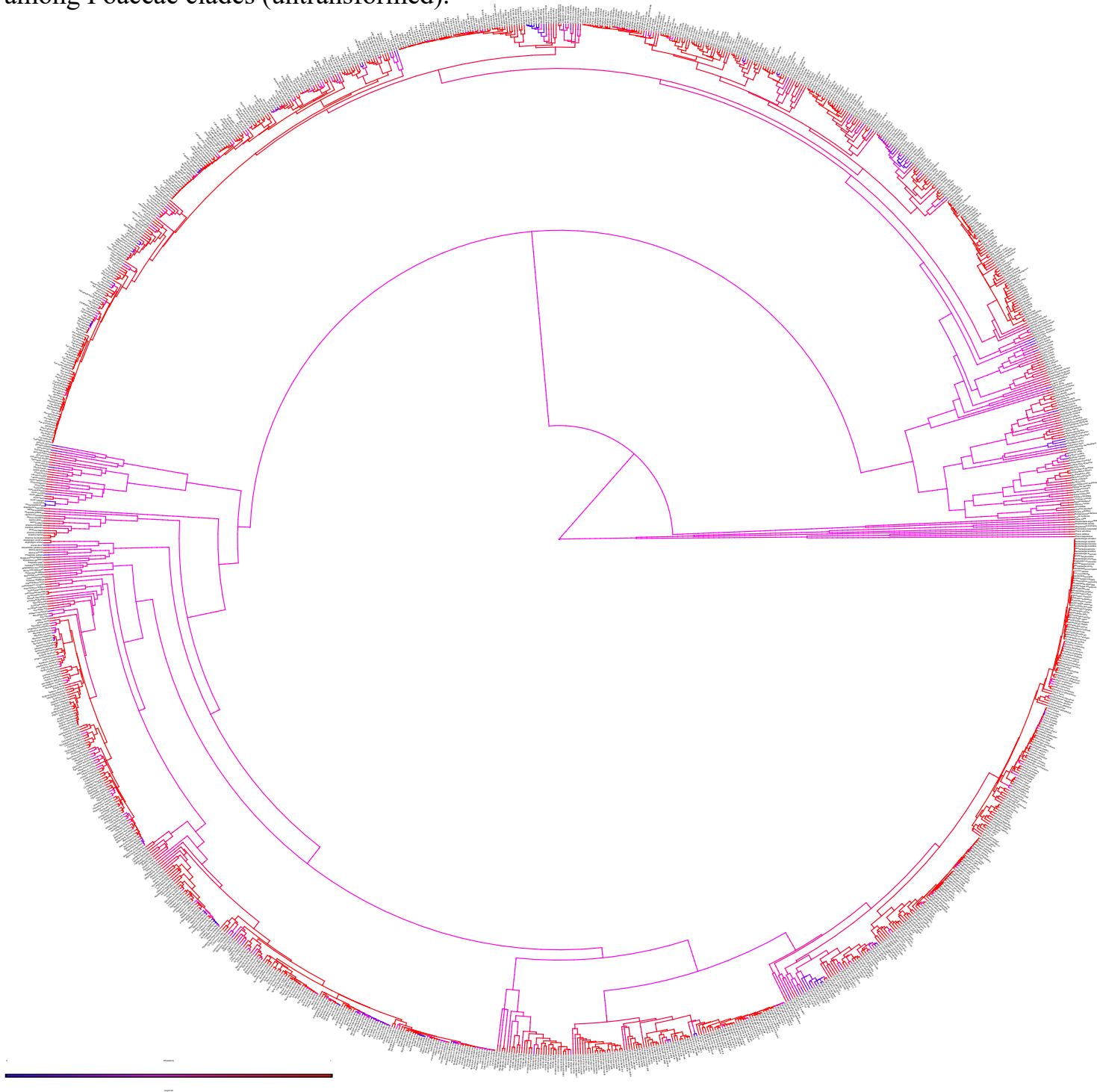
Database/Ref. Sources	Region/Extent	Countries	Access Link/Extended Reference
Global Invasive Species Database	Global	All	http://issg.org/database/welcome/aboutGISD.asp
Invasive Species Compendium	Global	All	https://www.cabi.org/isc/
State Noxious Weeds (USA)	North America	USA	https://www.invasive.org/
Canadian Botanical Conservation Network	North America	Canada	http://www.rbg.ca/archive/cbcn/en/projects/invasives/i_herb1.html
Especies Invasoras Exoticas SEMARNAT Mexico	North America	Mexico	https://www.gob.mx/semarnat/documentos/listado-de-plantas
Plantas Invasoras en Cuba	Central America	Cuba	Jardín Botánico Nacional. Bissea (9) SpecialIssue 2
Naturalization and Invasion of Alien plants in Puerto Rico	Central America	Puerto Rico, Virgin Islands	Sandoval & Acevedo Rodriguez (2015) Biological Invasions
Inter-American Biodiversity Information Network (Brazil)	South America	Brazil	http://i3n.institutohorus.org.br/www/
Plant Invasions in Chile	South America	Chile	Invasive Species in a Changing World Arroyo et al. 2000 Eds. Hobbs
Invasive Alien Species (EU)	Europe	European	http://ec.europa.eu/environment/nature/invasivealien/index_en.htm
Handbook of Alien Species In Europe DAISIE (EU)	Europe	European	http://www.europe-aliens.org/
Weeds of National Significance	Oceania	Australia	http://www.environment.gov.au/biodiversity/invasive/weeds/weeds/lists/wons.html
Consolidated list of environmental weeds (NZ)	Oceania	New Zealand	Howell and Clayson (2008)
Invasive Alien Plants in China	Asia	China	Weber et al. (2008) Biological Invasions Fang & Wan (2009) CRC Press
Invasive alien flora of India	Asia	India	Wagh& Jain, 2015 Kohli et al. (2009) CRC Press
Invasive Species of Japan	Asia	Japan	https://www.nies.go.jp/biodiversity/invasive/DB/etoc8_plants.html
Alien Invasive Plants List For South Africa	Africa	South Africa	https://www.environment.co.za/weeds-invaders-alien-vegetation/alien-invasive-plants-list-for-south-africa.html

Supplementary Table 2. Poaceae species were arranged in monophyletic clades at the genera level. Clades are named after the dominant genera for each cluster. The list of inclusions of related single species (and excluded from their original source) or entire genera (merging of paraphyletic groups) is provided below. This reclassification results are meant to cope with phylogeny uncertainties for Poaceae from Qian and Jin (2016) but ought not to be taken as a resolved phylogeny.

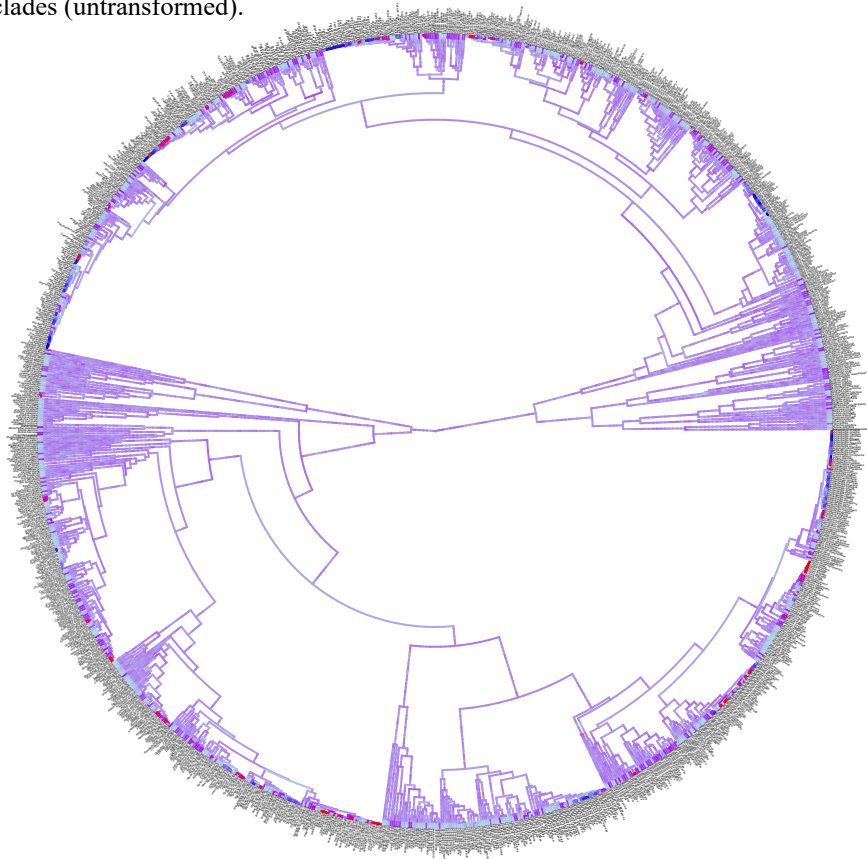
Anthraxon: *Eulalia quadrinervis*
 Agropyron: *Henrardia* (*Elymus rectisetus*, *Leymus tianschanicus*, *Elymus pycnanthus*)
 Aegylops: *Triticum*
 Agrostis: *Polypogon*
 Altoparadisium: *Arthropogon*
 Aira: *Deschampsia flexuosa*
 Andropogon: *Schizachryrium*
 Apera: (*Poa eminens*)
 Arctagrostis: (*Poa saxicola*)
 Arundinella: *Garnotia*, *Imperata cheesemanii*
 Axonopus: *Opiochloa*
 Bambusa: *Dendrocalamus*, *Oxytenanthera*
 Bothriochloa: *Dichanthium*
 Bouteloua: *Buchloe*, *Chondrosum*
 Brachyaria: *Urochloa*, *Eriochloa*, *Melinis*, *Thuarea*, (*Streptostachys acuminata*)
 Bromus: (*Melica mutica*) *Boissera squarrosa*
 Echinopogon:: *Calamagrostis*, *Ammophila*, *Triplachne* (*Agrostis thurbenaria*), *Briza subaristata* *Dichelachne*, *Briza* (except *Briza Maxima*),
 Chloris: *Lintonia*, *Enteropogon prierii*
 Cortaderia: *Lamprothyrsis*
 Cinna: (*Alopecurus myosuroides*)
 Dichelachne: (
 Deschampsia: *Helictotrichon versicolor*, *H. bromoides*, *H. hookeri*. *Holcus*
 Elymus: *Dasypyrum villosum*, *Hystrix patula*
 Eleusine: *Leptopchloa*, *Dinebra*
 Leptopchloa: *Dinebra*
 Eragrostis: *Ectrosia*, *Eragrostiella brachypilla*, *Harpachne*, *Pappophorum bicolor*,
 Enneapogon scaber, *Pogonarthria*, *Cladoraphis*
 Entolasia: *Panicum notatum*
 Fingerhuthia: *Entoplocamia*
 Festuca: *Vulpia*, *Lolium*, *Micropyrum*
 Helictotrichon: *Arrhenaterum*, *Hierochloe occidentalis*
 Hordeum: *Elymus glaucus*, *Elymus enysii*, *Hystrix laevis*, *H. gracilis*
 Heteropogon: *Iseilema*, *Coix*
 Imperata: *Mischantus ecklonii*, *Saccharum arundinaceum*, *Saccharum ravennae*
 Ixophorus: *Panicum bulbosum*
 Guadua: *Chusquea coronalis*, *Chusquea circinata*, *Oatea*
 Hackelochloa: *Hemarthria uncinata*
 Triplasis: *Gymnopogon brevifolius*
 Leptothrium: *Gymnopogon ambiguous*
 Leymus: *Hystrix duthiei*, *Hystrix californica* *Psathyrostachys*, *Hordelymus*
 Litachne: *Olyra*

Muhlenbergia: Aegopogon, Lycurus, Schedonnardus, Redfieldia, Blepharoneuron
(Sporobolus contractus, Eragrostis australasica)
Pennisetum: Cenchrus
Poa: Austrofestuca, Cleistogenes serotina, Millium, Festuca kerguelensis,
Pseudoscherochloa rupestris, Agrostis canina, Neuropoa
Panicum: (Alloteropsis semialata), Neurachne
Pseudosasa: Semiarundinaria, Pleiobastus
Paspalum: Anthaenantiopsis
Phaenosperma: Bromus remotiflorus
Pogonatherum: Hemarthria altissima
Phyllostachys: Indocalamus, Oligostachium, Chimonobambusa, Ampelocalamus,
Yushania, Fargesia, Drepanostachys
Pentameris: Prionanthium
Rytidosperma: Pyrrhantera
Spartina: Calamovilfa longifolia
Sporobolus: Aristida hygrometrica, Calamovilfa gigantea, Eragrostis japonica, Crypsis
Sorghum: Eulalia aurea, Cleistachne sorghoides, Ischaemum, Dimeria, Capillipendium,
Phacelurus, Polytrias, Microstegium
Sorghastrum: Tristachya biseriata
Sasa: Phyllosasa
Stipa: Oryzopsis, Psammochloa, Piptochaetium, Ampelodesmos, Stipagrostis plumosa
Setaria: Paspalidium, Panicum antidotale, Spinifex, Pseudoraphilis
Streptostachys: Alloteropsis ciminata
Trisetum: Koeleria, Gaurdinia, Rostraria
Trachypogon: Sorghastrum incompletum
Triodia: Monodia
Tetrapogon: Harpochloa
Ventennata: Apera interrupta
Zizania: Leersia

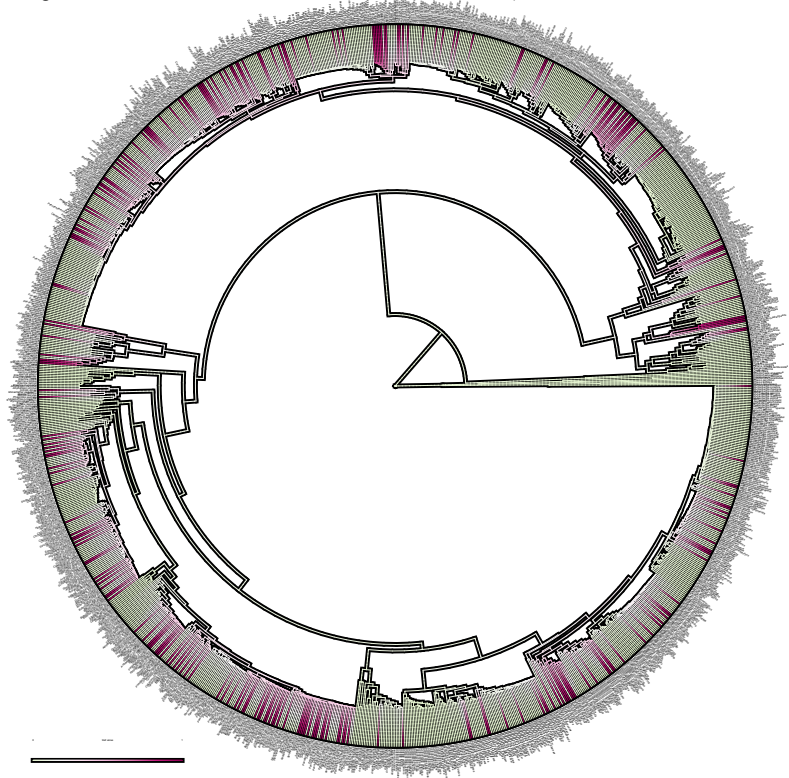
Supplementary Figure 1. Ancestral state reconstruction of the naturalised character state among Poaceae clades (untransformed).



Supplementary Figure 2. Ancestral state reconstruction of the invasive character state among Poaceae clades (untransformed).



Supplementary Figure 3. Ancestral state reconstruction of the naturalised character status among Poaceae clades with a lambda transformation set to 0.90)



Supplementary Figure 4. Ancestral state reconstruction of the invasive character state among Poaceae clades with a lambda transformation set to 0.90.

