

Today's Schedule (in EST!)

11:00-11:20 Introduction to CartograPlant - Dr. Jill Wegrzyn

11:20-11:40 Introduction to Data Submission with TPPS/TPPSc - Emily Grau

11:40-12:00 Introduction to Data Collection/Mobile Phenotyping with TreeSnap - Dr. Margaret Staton

12:00-12:15 Break

12:15-12:35 Behind the Scenes of CartograPlant - Environmental Layers and Data - Risharde Ramnath

12:35-12:55 Analytics with CartograPlant (GWAS and GEA). Part 1 - Gabriel Barrett

12:55-1:15 Analytics with CartograPlant (GWAS and GEA). Part 2 - Dr. Irene Cobo-Simon

1:15-1:30 Q&A

TPPS

Tripal Plant PopGen Submit

SUBMIT GEOREFERENCED PLANTS (GXPXE)

- * **Study design metadata**
- * **Genotype [SSR, SNP assays, GBS]**
- * **Phenotypes [measures & description]**
- * **Environment [measures & layers]**

THE PLANT
POPGEN SUBMIT PIPELINE
SUPPORTS FAIR!
VIEW YOUR DATA
@CARTOGRAPHPLANT.ORG



Why do we need a submission pipeline?

TPPS

Forest type	Nº of the Sample plot	Coordinate (Longitude)	Coordinate (Latitude)	Nº of the Model tree	age (years)	H ² (m)	LCr ³ (m)	LCr (%)	h, m	C.A., years
Lingonberry pine forest	SP9	62.478222	33.80600	M1	70	22	8	35	0	66
									2	61
									5	45
									8	32
								11	25	
				M2	70	20	8	41	0	66
									2	53
									5	40
									8	25
				M3	68	20	10	52	0	64
									2	55
									5	41
						8	29			
					11	25				
	SP1	62.29675	34.008806	M1	80	20	6	28	0	76
									2	69
									5	56
									8	46
								11	37	
				M2	79	20	5	24	0	75
								2	63	
								5	53	
								8	42	
							11	32		
M3				76	20	8	40	0	72	
								2	64	
								5	52	
								7	47	
M4				76	20	9	46	0	72	
								2	67	
					5	52				
					8	44				

The dataset is arranged as follows:

First Column: The spatial location of the time series

Second Column: Number of each pine sampled within every plot

Third Column: Variable measured: Deer population size and Summer rainfall

Fourth to 17th Column: data value for each variable and year from 1993 to 2023

Spatial location;Pine;Variable;1993;1994;1995;1996;1997;1998;1999;2000;2001;2002;2003;2004;2005;2006;2007;2008;2009;2010;2011;2012;2013;2014;2015;2016;2017;2018;2019;2020;2021;2022;2023

Landscape;-;Deer population size;231;278;338;409;511;656;858;1800;1900;2000;2100;2200;2300;2400;2500;2600;2700;2800;2900;3000;3100;3200;3300;3400;3500;3600;3700;3800;3900;4000;4100;4200;4300;4400;4500;4600;4700;4800;4900;5000;5100;5200;5300;5400;5500;5600;5700;5800;5900;6000;6100;6200;6300;6400;6500;6600;6700;6800;6900;7000;7100;7200;7300;7400;7500;7600;7700;7800;7900;8000;8100;8200;8300;8400;8500;8600;8700;8800;8900;9000;9100;9200;9300;9400;9500;9600;9700;9800;9900;10000

Landscape;-;Summer rainfall;109;25;14;112;59;33.1;27;17;13;0;57.2

Boleta_treeline;-;Herbivory intensity;3.125;12.5;21.875;15.625;3.333;10;20;30;40;50;60;70;80;90;100;110;120;130;140;150;160;170;180;190;200;210;220;230;240;250;260;270;280;290;300;310;320;330;340;350;360;370;380;390;400;410;420;430;440;450;460;470;480;490;500;510;520;530;540;550;560;570;580;590;600;610;620;630;640;650;660;670;680;690;700;710;720;730;740;750;760;770;780;790;800;810;820;830;840;850;860;870;880;890;900;910;920;930;940;950;960;970;980;990;1000

Fonfria_treeline;-;Herbivory intensity;0;0;0;0;6.451612903;12.903225806

Boleta_woodland_P.Sylvestris;-;Herbivory intensity;6.741573034;5.451612903

Boleta_woodland_P.Nigra;-;Herbivory intensity;7.272727273;5.451612903

Fonfria_woodland;-;Herbivory intensity;0;0;0;0;7.692307692;7.692307692

Boleta_treeline;1;Age;8;9;10;11;12;13;14;15;16;17;18;19;20;21;22;23;24;25;26;27;28;29;30;31;32;33;34;35;36;37;38;39;40;41;42;43;44;45;46;47;48;49;50;51;52;53;54;55;56;57;58;59;60;61;62;63;64;65;66;67;68;69;70;71;72;73;74;75;76;77;78;79;80;81;82;83;84;85;86;87;88;89;90;91;92;93;94;95;96;97;98;99;100

Boleta_treeline;2;Age;8;9;10;11;12;13;14;15;16;17;18;19;20;21;22;23;24;25;26;27;28;29;30;31;32;33;34;35;36;37;38;39;40;41;42;43;44;45;46;47;48;49;50;51;52;53;54;55;56;57;58;59;60;61;62;63;64;65;66;67;68;69;70;71;72;73;74;75;76;77;78;79;80;81;82;83;84;85;86;87;88;89;90;91;92;93;94;95;96;97;98;99;100

Boleta_treeline;3;Age;10;11;12;13;14;15;16;17;18;19;20;21;22;23;24;25;26;27;28;29;30;31;32;33;34;35;36;37;38;39;40;41;42;43;44;45;46;47;48;49;50;51;52;53;54;55;56;57;58;59;60;61;62;63;64;65;66;67;68;69;70;71;72;73;74;75;76;77;78;79;80;81;82;83;84;85;86;87;88;89;90;91;92;93;94;95;96;97;98;99;100

Boleta_treeline;4;Age;13;14;15;16;17;18;19;20;21;22;23;24;25;26;27;28;29;30;31;32;33;34;35;36;37;38;39;40;41;42;43;44;45;46;47;48;49;50;51;52;53;54;55;56;57;58;59;60;61;62;63;64;65;66;67;68;69;70;71;72;73;74;75;76;77;78;79;80;81;82;83;84;85;86;87;88;89;90;91;92;93;94;95;96;97;98;99;100

Boleta_treeline;5;Age;7;8;9;10;11;12;13;14;15;16;17;18;19;20;21;22;23;24;25;26;27;28;29;30;31;32;33;34;35;36;37;38;39;40;41;42;43;44;45;46;47;48;49;50;51;52;53;54;55;56;57;58;59;60;61;62;63;64;65;66;67;68;69;70;71;72;73;74;75;76;77;78;79;80;81;82;83;84;85;86;87;88;89;90;91;92;93;94;95;96;97;98;99;100

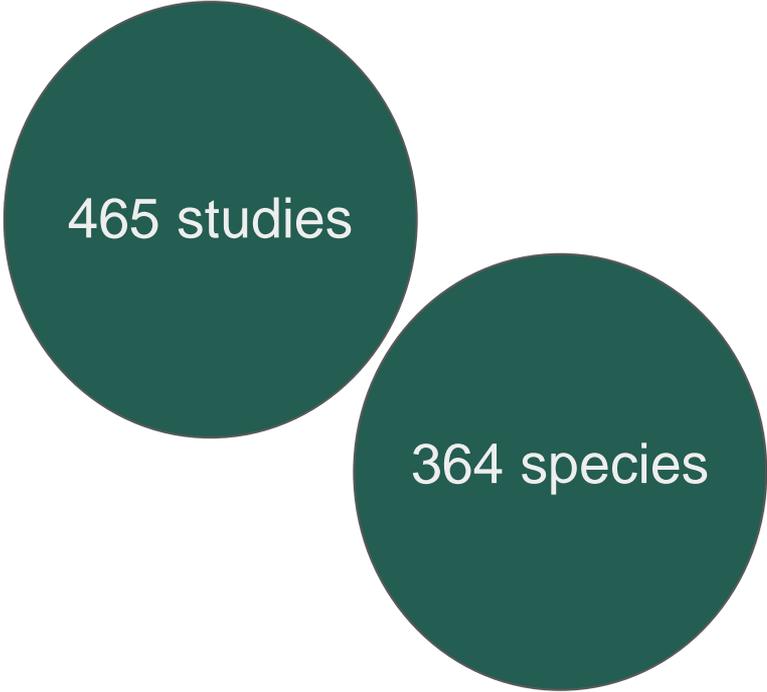
Boleta_treeline;6;Age;11;12;13;14;15;16;17;18;19;20;21;22;23;24;25;26;27;28;29;30;31;32;33;34;35;36;37;38;39;40;41;42;43;44;45;46;47;48;49;50;51;52;53;54;55;56;57;58;59;60;61;62;63;64;65;66;67;68;69;70;71;72;73;74;75;76;77;78;79;80;81;82;83;84;85;86;87;88;89;90;91;92;93;94;95;96;97;98;99;100

Boleta_treeline;7;Age;12;13;14;15;16;17;18;19;20;21;22;23;24;25;26;27;28;29;30;31;32;33;34;35;36;37;38;39;40;41;42;43;44;45;46;47;48;49;50;51;52;53;54;55;56;57;58;59;60;61;62;63;64;65;66;67;68;69;70;71;72;73;74;75;76;77;78;79;80;81;82;83;84;85;86;87;88;89;90;91;92;93;94;95;96;97;98;99;100

Boleta_treeline;8;Age;14;15;16;17;18;19;20;21;22;23;24;25;26;27;28;29;30;31;32;33;34;35;36;37;38;39;40;41;42;43;44;45;46;47;48;49;50;51;52;53;54;55;56;57;58;59;60;61;62;63;64;65;66;67;68;69;70;71;72;73;74;75;76;77;78;79;80;81;82;83;84;85;86;87;88;89;90;91;92;93;94;95;96;97;98;99;100

Boleta_treeline;9;Age;12;13;14;15;16;17;18;19;20;21;22;23;24;25;26;27;28;29;30;31;32;33;34;35;36;37;38;39;40;41;42;43;44;45;46;47;48;49;50;51;52;53;54;55;56;57;58;59;60;61;62;63;64;65;66;67;68;69;70;71;72;73;74;75;76;77;78;79;80;81;82;83;84;85;86;87;88;89;90;91;92;93;94;95;96;97;98;99;100

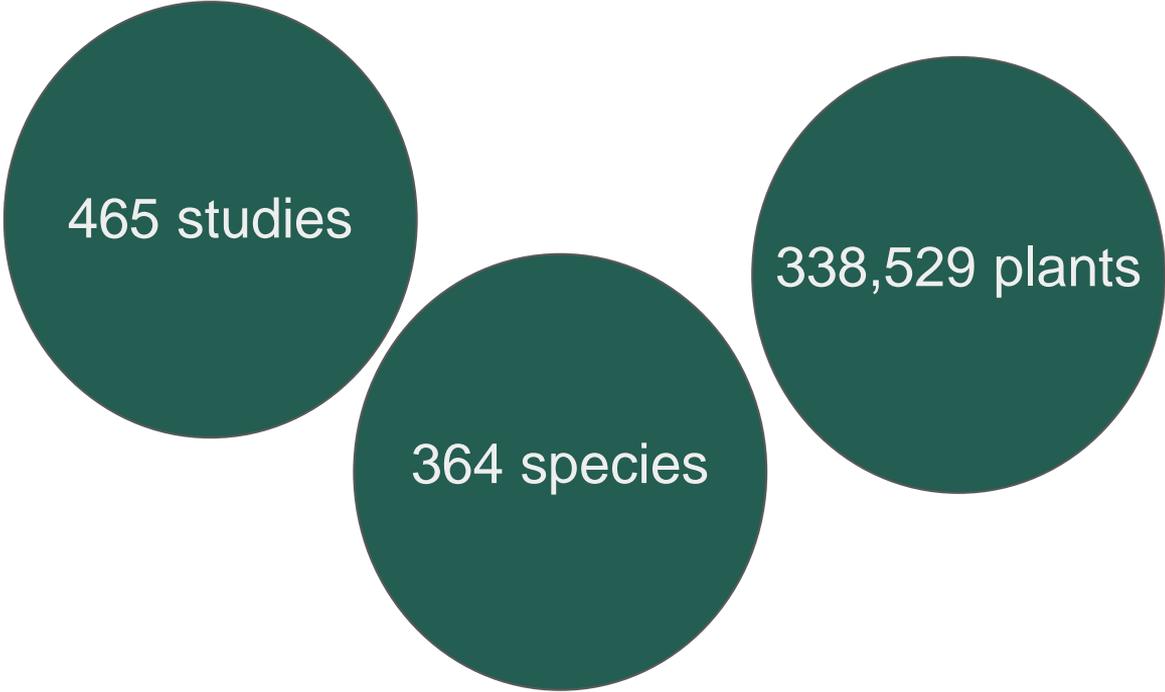
TPPS



465 studies

364 species

TPPS



465 studies

364 species

338,529 plants

TPPS

465 studies

364 species

338,529 plants

1,754,431
phenotypes

1,115,615,963
genotypes

TPPS Submission

[Create new account](#)[Log in](#)[Request new password](#)**Email ***

Enter your TreeGenes email address

esgrau@gmail.com

Password *Enter the password that accompanies
your username.

••••••••

LOG IN

USER MENU

[Submit PopGen Data](#)

MEETINGS

**XXVI IUFRO WORLD
CONGRESS 2024 (Stockholm)**
June 23 to 29 2024
Stockholm, Sweden

- [View more meetings](#)

[Data Submission](#)[JBrowse](#)[Comparative Map Viewer](#)[DiversiTree](#)[CartograTree](#)[TSeq: Tripal Sequence Similarity Search](#)[Galaxy](#)[Add Job Listing >](#)[Add Meeting/Conference >](#)[Submit PopGen Data >](#)[Submit Genetic Map >](#)[Log out of TreeGenes >](#)[View](#) [Edit](#) [Manage display](#) [Devel](#)

Welcome to



You're now logged in and ready to go!

[Add/Edit Profile](#)[Add/Edit Workshop/Conference](#)[Add/Edit Employment Listings](#)

MEETINGS

7th IUFRO International Workshop on the Genetics of Tree-Parasite Interactions in Forestry Understanding forest tree-antagonistic interactions in a changing world
September 21 to 25 2022
Pontevedra, Spain

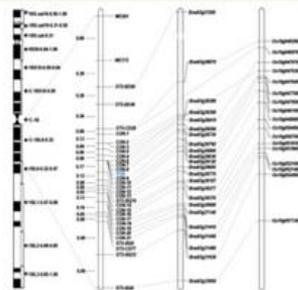
[View more meetings](#)

View Edit Manage display Devel

TREEGENES DATA SUBMISSION



[Plant PopGen Submission](#)



Genetic Map Submission

USER MENU

- [View Profile](#) >
- [Edit Profile](#) >
- [Add Job Listing](#) >
- [Add Meeting/Conference](#) >
- [Submit PopGen Data](#) >
- [Submit Genetic Map](#) >
- [Log out of TreeGenes](#) >

MEETINGS

7th IUFRO International Workshop on the Genetics of Tree-Parasite Interactions in Forestry Understanding forest tree-antagonistic interactions in a changing world
September 21 to 25 2022
Pontevedra, Spain

- [View more meetings](#)

POPGEN SUBMIT
PIPELINE (TPPS)
SUPPORTS FAIR!
VIEW YOUR
DATA @
CARTOGRATREE.ORG



TPPS DOCUMENTATION

TPPS STUDIES

CARTOGRAPLANT

Would you like to load an old TPPS submission, or create a new one? Create new TPPS Submission

I would like to use a custom accession number.

Specify a custom accession number. This feature is available only to users with administrative access, or users with a role of administrator.

or recommendations.

SUBMIT DATA

genus is driven by
[#elevation](#): a case
study in

[#NewGuinean](#)
[#Ficus](#)

By: S. T. Segar, M.
Voit, J. Zima Jnr, B.
Isua, M. Sisol, L.
Sam, et al.

[#TGDR603](#) has 697



TreeGenes

@TreeGenes · 22h



FEATURED STUDY: [#Speciation](#) in a
keystone plant genus is driven by
[#elevation](#): a case study in
[#NewGuinean](#) [#Ficus](#)

By: S. T. Segar, M. Voit, J. Zima Jnr, B.
Isua, M. Sisol, L. Sam, et al.
[#TGDR603](#) has 697 [#plants](#) in

CONTACT US

TreeGenes Database
Plant Computational Genomics Lab
181 Auditorium Rd
Storrs CT 06269-3214
treegenesdb@gmail.com

OTHER TREE DATABASES

- Hardwood Genomics Project
- Genome Database for Roseaceae
- PLAZA Plant Comparative Genomics
- 1000 Plant Transcriptomes (1KP)
- Congenie

FINDING SOURCES

HOW TO REFERENCE TREEGENES



Combining genotype, phenotype, and environmental data to delineate site-adjusted provenance strategies for ecological restoration

Carolina S. Carvalho^{1,2}  | Brenna R. Forester³  | Simone K. Mitre¹  | Ronnie Alves¹  |
Vera L. Imperatriz-Fonseca¹  | Silvio J. Ramos¹  | Luciana C. Resende-Moreira¹  |
José O. Siqueira^{1,4}  | Leonardo C. Trevelin¹  | Cecilio F. Caldeira¹  |
Markus Gastauer¹  | Rodolfo Jaffé^{1,5} 

¹Instituto Tecnológico Vale, Belém, Pará, Brazil

²Departamento de Genética e Evolução, Universidade Federal de São Carlos,

Abstract

Despite the importance of climate-adjusted provenancing to mitigate the effects of environmental change, climatic considerations alone are insufficient when restoring

TPPS

⚠ Author and Species Information ✖ Experimental Conditions ✖ Plant Accession ✖ Submit Data

Primary Author: * Carvalho, Carolina S

Organization: * Instituto Tecnológico Vale

▼ PUBLICATION INFORMATION:

▼ SECONDARY AUTHOR INFORMATION

ADD SECONDARY AUTHOR

REMOVE SECONDARY AUTHOR

Publication Status: * Published

Year of Publication: * - Select -

If your publication has not been published yet, please choose the expected year of publication.

Title of Publication/Study: * delineate site-adjusted provenance strategies for ecological restoration

Abstract/Description: *

restoration of iron-rich Amazonian Savannas. We first use a subset of neutral loci to assess genetic structure and determine the

Abstract/Description: *

restoration of iron-rich Amazonian Savannas. We first use a subset of neutral loci to assess genetic structure and determine the genetic neighbourhood size. We then identify genotype-phenotype-environment associations, map adaptive genetic variation, and predict adaptive genotypes for restoration sites. Whereas local provenances were found optimal to restore a moderately disturbed site, a mixture of genotypes seemed the most promising strategy to recover a highly degraded mining site. We discuss how our results can help define site-adjusted provenancing strategies, and argue that our methods can be more broadly applied to assist other restoration initiatives.

Journal: * Molecular Ecology Resources

STUDY COVER PHOTO: (OPTIONAL)

Please upload a cover photo for your study. This photo will be displayed at the top of the landing page of the study.

Browse... No file selected.

UPLOAD

ORGANISM INFORMATION:

ADD ORGANISM

REMOVE ORGANISM

Species 1

Dioclea apurensis

This species is a tree.

Species 2

Mimosa acutistipula var. fer-rea

If your species is not in the autocomplete list, don't worry about it! We will create a new organism entry in the database for you.

This species is a tree.

* : Required Field

TPPS

✔ Author and Species Information ⚠ Experimental Conditions ✖ Plant Accession ✖ Submit Data

EXPERIMENT/ANALYSIS DATES

Starting Year: * 2018 ▾

Starting Month: * February ▾

Ending Year: * 2018 ▾

Ending Month: * May ▾

STUDY DESIGN

Data Type: * Genotype x Environmental layers ▾

Study Type: * Natural Population (Landscape) ▾

* NATURAL POPULATION/LANDSCAPE INFORMATION:

Seasons (select all that apply): *

- Spring
 Summer
 Fall
 Winter

If you do not know which season your samples were collected, please select all.

- ✔ Publication Title: Combining genotype, phenotype, and environmental data to delineate site-adjusted provenance strategies for ecological restoration
- ✔ Primary Author: Grau, Emily
- ✔ Publication Status: Published
- ✔ Publication Journal: Molecular Ecology Resources
- ✔ Secondary Author 1: Forester, Brenna R
- ✔ Secondary Author 2: Mitre, Simone K
- ✔ Secondary Author 3: Alves, Ronnie
- ✔ Secondary Author 4: Imperatriz-Fonseca, Vera L
- ✔ Secondary Author 5: Ramos, Silvio J
- ✔ Secondary Author 6: Resende-Moreira, Luciana C
- ✔ Secondary Author 7: Siqueir, José O
- ✔ Secondary Author 8: Trevelin, Leonardo C
- ✔ Secondary Author 9: Caldeira, Cecilio F
- ✔ Secondary Author 10: Gastauer, Markus
- ✔ Secondary Author 11: Jaffé, Rodolfo
- ✔ Species 1: *Dioclea apurensis*
- ✔ Species 2: *Mimosa acutistipula* var. *ferrea*

Starting Month: * February ▾

Ending Year: * 2018 ▾

Ending Month: * May ▾

STUDY DESIGN

Data Type: * ▾

* : Required Field

BACK

SAVE

NEXT

- Select -

Genotype

Phenotype (and/or manual environmental data)

Environmental layers

Genotype x Phenotype (and/or manual environmental data)

Genotype x Environmental layers

Phenotype (and/or manual environmental data) x Environmental layers

Genotype x Phenotype (and/or manual environmental data) x Environmental layers

- ✓ Publication Journal: Molecular Ecology Resources
- ✓ Secondary Author 1: Forester, Brenna R
- ✓ Secondary Author 2: Mitre, Simone K
- ✓ Secondary Author 3: Imperatriz-Fonseca, Vera L
- ✓ Secondary Author 4: Ramos, Silvio J
- ✓ Secondary Author 5: Resende-Moreira, Luciana C
- ✓ Secondary Author 6: Siqueir, José O
- ✓ Secondary Author 7: Trevelin, Leonardo C
- ✓ Secondary Author 8: Caldeira, Cecilio F
- ✓ Secondary Author 9: Gastauer, Markus
- ✓ Secondary Author 10: Jaffé, Rodolfo
- ✓ Species 1: *Dioclea apurensis*
- ✓ Species 2: *Mimosa acutistipula* var. *ferea*

Starting Month: * February ▾

Ending Year: * 2018 ▾

Ending Month: * May ▾

STUDY DESIGN

Data Type: * Genotype x Phenotype (and/or manual environmental data) x Environmental layers ▾

Study Type: *

- Select -

Natural Population (Landscape)

Growth Chamber

Greenhouse

Experimental/Common Garden

Plantation

* : Required Field

BACK

SAVE

NEXT

✓ Publication Journal:

Molecular Ecology Resources

✓ Secondary Author 1:

Forester, Brenna R

✓ Secondary Author 2: Mitre,

Simone K

✓ Secondary Author 3:

Imperatriz-Fonseca, Vera L

✓ Secondary Author 4: Ramos,

Silvio J

✓ Secondary Author 5:

Resende-Moreira, Luciana C

✓ Secondary Author 6: Siqueir,

José O

✓ Secondary Author 7:

Trevelin, Leonardo C

✓ Secondary Author 8:

Caldeira, Cecilio F

✓ Secondary Author 9:

Gastauer, Markus

✓ Secondary Author 10: Jaffé,

Rodolfo

✓ Species 1: Dioclea apurensis

✓ Species 2: Mimosa

acutistipula var. ferea

Study Type: * Experimental/Common Garden ▾

▾ COMMON GARDEN INFORMATION:

Irrigation Type: * - Select - ▾

Salinity controlled or uncontrolled: * - Select - ▾

Biotic Environment: *

- Herbivores
- Mutualists
- Pathogens
- Endophytes
- Other
- None

Seasons: *

✓ Secondary Author 7:

Trevelin, Leonardo C

✓ Secondary Author 8:

Caldeira, Cecilio F

✓ Secondary Author 9:

Gastauer, Markus

✓ Secondary Author 10: Jaffé,

Rodolfo

✓ Species 1: *Dioclea apurensis*

✓ Species 2: *Mimosa acutistipula* var. *ferrea*

Study Type: * Natural Population (Landscape) ▾

▾ NATURAL POPULATION/LANDSCAPE INFORMATION:

Seasons (select all that apply): *

- Spring
- Summer
- Fall
- Winter

If you do not know which season your samples were collected, please select all.

Number of times the populations were assessed (on average): * 1 ▾

* : Required Field

BACK

SAVE

NEXT

- Secondary Author 3: Ronnie
- ✓ Secondary Author 4: Imperatriz-Fonseca, Vera L
- ✓ Secondary Author 5: Ramos, Silvio J
- ✓ Secondary Author 6: Resende-Moreira, Luciana C
- ✓ Secondary Author 7: Siqueir, José O
- ✓ Secondary Author 8: Trevelin, Leonardo C
- ✓ Secondary Author 9: Caldeira, Cecilio F
- ✓ Secondary Author 10: Gastauer, Markus
- ✓ Secondary Author 11: Jaffé, Rodolfo
- ✓ Species 1: Dioclea apurensis
- ✓ Species 2: Mimosa acutistipula var. ferea

Allowed file extensions: txt csv xlsx

 Cood_Dioclea.csv [REMOVE](#)

File Upload empty field:

By default, TPPS will treat cells with the value "NA" as empty. If you used a different empty value indicator, please provide it here.

▾ DEFINE DATA

Please define which columns hold the required data: Plant Identifier and Location. If your plants are located based on a population group, you can provide the population group column and a mapping of population group to location below.

Sample_ID	Species	Location	Latitude	Longitude
<input type="text" value="Plant Identifier"/>	<input type="text" value="N//"/>	<input type="text" value="Population Group"/>	<input type="text" value="Latitude"/>	<input type="text" value="Longitude"/>
CC023_sorted	Dioclea_apurensis	N1	-6.027033	-50.1610169
CC046_sorted	Dioclea_apurensis	N8	-6.164267007261515	-50.1610169
CC063_sorted	Dioclea_apurensis	N8	-6.1730229947716	-50.1512239

Please note that if you remain idle on a TPPS page with files for more than 6 hours, you run the risk of having those files reset if you do not click "Save".

My file has no header row

Coordinate Projection

[CLICK HERE TO VIEW PLANTS ON MAP!](#)

The provided GPS coordinates are exact

Coordinates accuracy:

The precision of the provided coordinates. For example, if a plant could be up to 10m away from the provided coordinates, then the accuracy would be "10m".

Mimosa acutistioula var. ferea Accession File: *

- ✔ Species 1: Dioclea apurensis
- ✔ Species 2: Mimosa acutistioula var. ferea

✔ Step 2 - Complete Experimental Conditions

- ✔ Experiment Starting Date: February 2018
- ✔ Experiment Ending Date: May 2018
- ✔ Data Type: Genotype x Environment
- ✔ Study Type: Natural Population (Landscape)



Allowed file extensions: txt csv xlsx

 Cood_Dioclea.csv [REMOVE](#)

File Upload empty field:

By default, TPPS will treat cells with the value "NA" as empty. If you used a different empty value indicator, please provide it here.

DEFINE DATA

Please define which columns hold the required data: Plant Identifier and Location. If your plants are located based on a population group, you can provide the population group column and a mapping of population group to location below.

Sample_ID	Species	Location	Latitude	Longitude
<input type="text" value="Plant Identifier"/>	<input type="text" value="N/A"/>	<input type="text" value="Population Group"/>	<input type="text" value="Latitude"/>	<input type="text" value="Longitude"/>
CC023_sorted	Dioclea_apurensis	N1	-6.027033	-50.1610169
CC046_sorted	Dioclea_apurensis	N8	-6.164267007261515	-50.1610169
CC063_sorted	Dioclea_apurensis	N8	-6.1730229947716	-50.1512239

Please note that if you remain idle on a TPPS page with files for more than 6 hours, you run the risk of having those files reset if you do not click "Save".

My file has no header row

Coordinate Projection

[CLICK HERE TO VIEW PLANTS ON MAP!](#)

The provided GPS coordinates are exact

Coordinates accuracy:

The precision of the provided coordinates. For example, if a plant could be up to 10m away from the provided coordinates, then the accuracy would be "10m".

Mimosa acutistipula var. ferea Accession File: *

- ✓ Species 1: Dioclea apurensis
- ✓ Species 2: Mimosa acutistipula var. ferea

✓ Step 2 - Complete Experimental Conditions

- ✓ Experiment Starting Date: February 2018
- ✓ Experiment Ending Date: May 2018
- ✓ Data Type: Genotype x Environment
- ✓ Study Type: Natural Population (Landscape)



Please note that if you remain idle on a TPPS page with files for more than 6 hours, you run the risk of having those files reset if you do not click "Save".

My file has no header row

Coordinate Projection **WGS 84**



[CLICK HERE TO VIEW PLANTS ON MAP!](#)

The provided GPS coordinates are exact

Mimosa acutistipula var. *ferea* Accession File: *

Please upload a spreadsheet file containing plant population data. When your file is uploaded, you will be shown a table with your column header names, several drop-downs, and the first few rows of your file. You will be asked to define the data type for each column, using the drop-downs provided to you. If a column data type does not fit any of the options in the drop-down menu, you may omit that drop-down menu. Your

TPPS

✔ Author and Species Information ✔ Experimental Conditions ✔ Plant Accession 🚩 Submit Data

▶ PINUS KREMPFII:

▶ PHENOTYPE INFORMATION:

Upload a file and/or fill in form fields below to provide us with metadata about your phenotypes.

My phenotypes include traits and/or environmental information other than mass spectrometry or isotope analysis

My phenotypes include results from a mass spectrometry or isotope analysis

ADD PHENOTYPE

ADD 5 PHENOTYPES

ADD 10 PHENOTYPES

REMOVE PHENOTYPE

CLEAR ALL PHENOTYPES

Phenotype 1:

Phenotype 1 Name: *

Phenotype "name" is the human-readable name of the phenotype, where "attribute" is the thing that the phenotype is describing.
Phenotype "name" should match the data in the "Phenotype Name/Identifier" column that you select in your Phenotype file

✔ Step 1 - Complete
Author and Species Information

- ✔ Publication Title:
Contrasting physiological traits of shade tolerance in Pinus and Podocarpaceae native to a tropical Vietnamese forest: Insight from an aberrant flat-leaved pine
- ✔ Primary Author: Grau, Emily
- ✔ Publication Status: Published
- ✔ Publication Journal: Tree Physiology
- ✔ Secondary Author 1: Buckley, Brendan
- ✔ Secondary Author 2: Stevenson, Dennis
- ✔ Secondary Author 3: Cuong, Truong
- ✔ Secondary Author 4: Nam, Le
- ✔ Secondary Author 5: Griffin, Kevin
- ✔ Species 1: Pinus krempfii



Phenotype "name" is the human-readable name of the phenotype, where "attribute" is the thing that the phenotype is describing.
Phenotype "name" should match the data in the "Phenotype Name/Identifier" column that you select in your Phenotype file below.

Phenotype 1 is an environmental phenotype

Phenotype 1 Attribute: * Weight

Phenotype 1 Description: * Leaf mass per area

Please provide a short description of Phenotype 1

Phenotype 1 Units: * My unit is not in this list

Phenotype 1 Custom Units: * grams per meter squared

Some examples of units include: "m", "meters", "in", "inches", "Degrees Celsius", "°C", etc.

Phenotype 1 has a value range

Phenotype 1 is a binary phenotype

Phenotype 1 Structure: * Leaf

Phenotype 2:

Phenotype 2 Name: *

Phenotype "name" is the human-readable name of the phenotype, where "attribute" is the thing that the phenotype is describing.
Phenotype "name" should match the data in the "Phenotype Name/Identifier" column that you select in your Phenotype file below.

Species 1: Pinus krempfii

Step 2 - Complete
Experimental Conditions

Experiment Starting Date:
January 2018
Experiment Ending Date:
December 2018
Data Type: Phenotype
Study Type: Natural
Population (Landscape)

Step 3 - Complete
Plant Accession

Pinus krempfii Accession
File:
SSchmiege_Table1_leaftraits
tree_accessions.csv

[Click here to view plants on map!](#)

Total number of plants: 55

▷ DIOCLEA APURENSIS:

▷ GENOTYPE INFORMATION:

Marker Type (select all that apply): *

- SNPs
- SSRs/cpSSRs
- Indels
- Other

▷ SNPS INFORMATION:

Define Experimental Design: * GBS

GBS Type: * NextRAD

Reference Assembly used: *

I can upload my own reference genome file

Tripal FASTA Loader

FASTA Upload

Please provide the FASTA file. The file must have a .fasta extension.

✔ Step 1 - Complete

Author and Species Information

✔ Publication Title: Combining genotype, phenotype, and environmental data to delineate site-adjusted provenance strategies for ecological restoration

✔ Primary Author: Grau, Emily

✔ Publication Status: Published

✔ Publication Journal: Molecular Ecology Resources

✔ Secondary Author 1: Forester, Brenna R

✔ Secondary Author 2: Mitre, Simone K

✔ Secondary Author 3: Alves, Ronnie

✔ Secondary Author 4: Imperatriz-Fonseca, Vera L

✔ Secondary Author 5: Ramos, Silvio J

✔ Secondary Author 6: Resende-Moreira, Luciana C

✔ Secondary Author 7: Siqueir, José O

✔ Secondary Author 8: Trevelin, Leonardo C

✔ Secondary Author 9: Caldeira, Cecilio F

✔ Secondary Author 10: Gastauer, Markus

✔ Secondary Author 11: Jaffé,

Reference Assembly used: *

I can upload my own reference genome file

Quercus robur vPM1N

Rhizophora apiculata v2.0

Sequoia sempervirens v2.1

Sequoiadendron giganteum v2.0

Shorea leprosula v1.0

Sonneratia caseolaris v1.0

Symphonia globulifera v1.0

Tectona grandis v1.0

Ulmus americana v2.0

Vernicia fordii v1.0

Vitis vinifera v145

Vitis vinifera v2.1

Xanthoceras sorbifolium v1.0

I can provide a URL to the website of my reference file(s)

I can provide a GenBank accession number (BioProject, WGS, TSA) and select assembly file(s) from a list

I can upload my own reference genome file

Tripal FASTA Loader

FASTA Upload

Please provide the FASTA

Remember to click the "Upload Progress" button to "Complete".

Dioclea apurensis genome

Choose the analysis

Resende-Moreira, Luciana C

Secondary Author 7: Siqueir, José O

Secondary Author 8: Trevelin, Leonardo C

Secondary Author 9: Caldeira, Cecilio F

Secondary Author 10: Gastauer, Markus

Secondary Author 11: Jaffé, Rodolfo

Species 1: Dioclea apurensis

Species 2: Mimosa acutistipula var. ferea

Step 2 - Complete Experimental Conditions

Experiment Starting Date: February 2018

Experiment Ending Date: May 2018

Data Type: Genotype x Environment

Mimosa acutistipula var. ferea genome (BMap tools 1,)

Choose the analysis to which the uploaded data will be associated. Why specify an analysis for a data load? All data comes from some place, even if downloaded from a website. By specifying analysis details for all data imports it provides provenance and helps end user to reproduce the data set if needed. At a minimum it indicates the source of the data.

Sequence Type scaffold

Please enter the Sequence Ontology (SO) term name that describes the sequences in the FASTA file (e.g. gene, mRNA, polypeptide, etc...)

EXTERNAL DATABASE REFERENCE

Genotype File Types (select all that apply): *

SNPs Genotype Assay

VCF

Genotype VCF File: *

Browse... mimosa.vcf.gz

UPLOAD

Environmental information for *Mimosa acutistipula* var. *ferea* is the same as environmental information for *Dioclea apurensis*.

* : Required Field

BACK

SAVE

REVIEW INFORMATION AND SUBMIT

PRE-VALIDATE MY VCF FILES

Sometimes large VCF files can cause problems during the validation step. If your VCF file is very large, you can click the "Pre-validate my VCF files" button to validate your VCF file in the background, before clicking "Review Information and Submit".

Would you like to upload a SNP association file? Yes ▾

Genotyping Type: * Genotyping Assay ▾

SNP Association File: *

Browse...

No file selected.

UPLOAD

File Upload empty field: NA

By default, TPPS will treat cells with the value "NA" as empty. If you used a different empty value indicator, please provide it here.

My file has no header row

Please upload a spreadsheet file containing SNPs Association data. When your file is uploaded, you will be shown a table with your column header names, several drop-downs, and the first few rows of your file. You will be asked to define the data type for each column, using the drop-downs provided to you. If a column data type does not fit any of the options in the

Confidence Value Type: * P value

Association Analysis Tool: *

- ✓ - Select -
- GEMMA
- EMMAX
- Plink
- Tassel
- Sambada
- Bayenv
- BayeScan
- LFMM

SNPs Population Structure File:

Browse... No file selected.

U

SNPs Kinship File:

Browse... No file selected.

UPLOAD

ENVIRONMENTAL INFORMATION:

CARTOGRAPLANT ENVIRONMENTAL LAYER GROUPS: *

PET and Aridity (Worldwide, CGIARCSI)

Confidence Value Type: *

Association Analysis Tool: *

SNPs Population Structure File:

No file selected.

SNPs Kinship File:

No file selected.

SSRs Ploidy: *

Mean Diurnal Range - Climatic variables (World, WorldClim v.2)

Mean Annual Precipitation - Climatic variables (World, WorldClim v.2)

Average Temp January - Climatic variables (World, WorldClim v.2)

Average Temp February - Climatic variables (World, WorldClim v.2)

Isothermality - Climatic variables (World, WorldClim v.2)

Mean Annual Temperature - Climatic variables (World, WorldClim v.2)

Precipitation January - Climatic variables (World, WorldClim v.2)

Temperature Seasonality - Climatic variables (World, WorldClim v.2)

Average Temp March - Climatic variables (World, WorldClim v.2)

Sexual homomorphism in dioecious trees: extensive tests fail to detect sexual dimorphism in Populus

You can view the TPPS Details page with completed and approved TPPS and TGDR data here

Field	Value
files	
Publication DOI	10.1038/s41598-017-01893-z
Publication Title	Sexual homomorphism in dioecious trees: extensive tests fail to detect sexual dimorphism in Populus
Primary Author	Athena D. McKown
Organization	University of British Columbia (Vancouver)
Publication Status	Published
Publication Abstract	The evolution of sexual dimorphism and expansio...
Publication Journal	Nature
Species 1	Populus trichocarpa
Species 2	Populus balsamifera
Data Type	Genotype x Phenotype
Study Type	Experimental/Common Garden

USER MENU

- [View Profile](#) >
- [Edit Profile](#) >
- [Add Job Listing](#) >
- [Add Meeting/Conference](#) >
- [Submit PopGen Data](#) >
- [Submit Genetic Map](#) >
- [Log out of TreeGenes](#) >

MEETINGS

7th IUFRO International Workshop on the Genetics of Tree-Parasite Interactions in Forestry Understanding forest tree-antagonistic interactions in a changing world
September 21 to 25 2022
Pontevedra, Spain

- [View more meetings](#)

Incomplete Submissions

Title	Primary Author	Number of Species	Abstract	Journal	
Data from: Landscape genomics of <i>Populus trichocarpa</i>: the role of hybridization, limited gene flow and natural selection in shaping patterns of population structure	Armando J. M. Geraldes	2	<i>Populus trichocarpa</i> is an ecologically important t...		Delete
Genome-wide association implicates numerous genes underlying ecological trait variation in natural populations of <i>Populus trichocarpa</i>	Athena McKown	1	In order to uncover the genetic basis of phenotypi...	New Phytologist	Delete
SNP dataset for <i>Buchenavia oxycarpa</i>	Alison Nazareno	1	<p>Wallace's (1854) Riverine Barrier hypot...		Delete

Complete Submissions

Title	Primary Author	Number of Species	Abstract	Journal	Status
Sexual homomorphism in dioecious trees: extensive tests fail to detect sexual dimorphism in <i>Populus</i>	Athena D. McKown	2	The evolution of sexual dimorphism and expansion of sex chromosomes are both	Nature	Approved

[Add Job Listing](#) >

[Add Meeting/Conference](#) >

[Submit PopGen Data](#) >

[Submit Genetic Map](#) >

[Log out of TreeGenes](#) >

MEETINGS

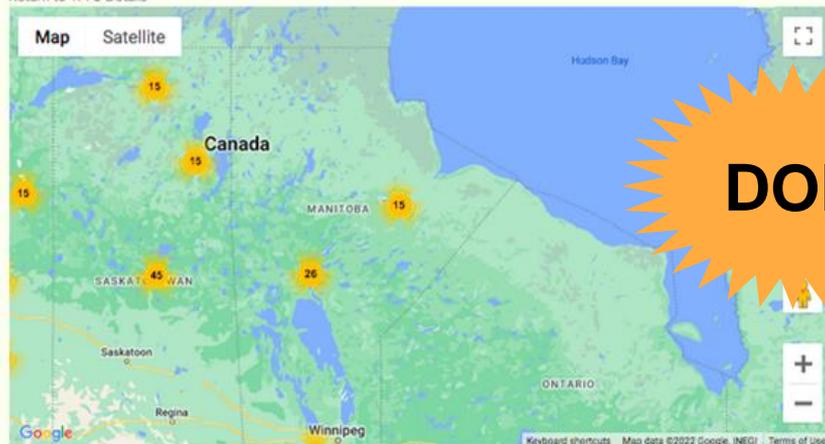
7th IUFRO International Workshop on the Genetics of Tree-Parasite Interactions in Forestry Understanding forest tree-antagonistic interactions in a changing world
September 21 to 25 2022
Pontevedra, Spain

[View more meetings](#)

LATEST LITERATURE

Genomic and common garden approaches yield





GENOMIC DIVERSITY, POPULATION STRUCTURE, AND MIGRATION FOLLOWING RAPID RANGE EXPANSION IN THE BALSAM POPLAR, *POPULUS BALSAMIFERA*

TPPS **Genotype**

Keller et al 2010 published in Molecular Ecology

Click to show abstract

View in CartograPlant

Download compressed raw files

Species Study Details Plants Genotypes

Accession	TGDR475
Title	Genomic diversity, population structure, and migration following rapid range expansion in the Balsam Poplar, <i>Populus balsamifera</i>
Authors	Stephen R. Keller
Species	<i>Populus balsamifera</i>
Data Type	Genotype
Study Type	Experimental/Common Garden
File	TGDR475_Plant_Accession_Populus_balsamifera.xlsx
Downloads	TGDR475_Genotype_SNPs_Assay_Populus_balsamifera.xlsx

JOB POSTINGS

- Assistant/Associate Professor in Forest Genetics/Tree Improvements: North Carolina State University
- Postdoctoral Researcher, Postdoctoral Fellow in Tree Genetics: The Morton Arboretum
- View more job postings

Tweets from @TreeGenes

Tre... · Aug 19

FEATURED STUDY:
 #Speciation in a keystone plant genus is driven by #elevation: a case study in #NewGuinean #Ficus
 By: S. T. Segar, M. Voif, J. Zima Jnr, B. Isua, M. Sisol, L. Sam, et al.
 #TGDR603 has 697



GENOMIC DIVERSITY, POPULATION STRUCTURE, AND MIGRATION FOLLOWING RAPID RANGE EXPANSION IN THE BALSAM POPLAR, *POPULUS BALSAMIFERA*

TPPS

Genotype

Keller et al 2010 published in Molecular Ecology

[Click to show abstract](#)

[View in CartograPlant](#)

[Download compressed raw files](#)

Species

Study Details

Plants

Genotypes

1

2

3

4

5

6

7

8

9

...

last »

next >

Plant	Name	Description	Marker Type
CAR05	SNP-243984-Poba-TT	TT	SNP
CAR05	SNP-244580-Poba-GG	GG	SNP
CAR05	SNP-246015-Poba-AA	AA	SNP
CAR05	SNP-247000-Poba-CC	CC	SNP
CAR05	SNP-247156-Poba-TT	TT	SNP
CAR05	SNP-249554-Poba-AA	AA	SNP
CAR05	SNP-250398-Poba-TT	TT	SNP
CAR05	SNP-250803-Poba-CC	CC	SNP
CAR05	SNP-250899-Poba-TT	TT	SNP
CAR05	SNP-251417-Poba-CC	CC	SNP

Tweets from @TreeGenes



Tre...
· Aug 19



FEATURED STUDY:
[#Speciation](#) in a keystone plant genus is driven by [#elevation](#): a case study in

[#NewGuinean](#)

[#Ficus](#)

By: S. T. Segar, M. Voif, J. Zima Jnr, B. Isua, M. Sisol, L. Sam, et al.

[#TGDR603](#) has 697





GENOMIC DIVERSITY, POPULATION STRUCTURE, AND MIGRATION FOLLOWING RAPID RANGE EXPANSION IN THE BALSAM POPLAR, *POPULUS BALSAMIFERA*

TPPS **Genotype**

Keller et al 2010 published in *Molecular Ecology*

[Click to show abstract](#)

[View in CartograPlant](#)

[Download compressed raw files](#)

Species Study Details Plants **Genotypes**

Accession	TGDR475
Title	Genomic diversity, population structure, and migration following rapid range expansion in the Balsam Poplar, <i>Populus balsamifera</i>
Authors	Stephen R. Keller
Species	<i>Populus balsamifera</i>
Data Type	Genotype
Study Type	Experimental/Common Garden
File Download	TGDR475_Plant_Accession_Populus_balsamifera.xlsx TGDR475_Genotype_SNP_Assay_Populus_balsamifera.xlsx
Population Size	474

Tweets from @TreeGenes



FEATURED STUDY:
[#Speciation](#) in a keystone plant genus is driven by [#elevation](#): a case study in [#NewGuinean](#) [#Ficus](#)
By: S. T. Segar, M. Volf, J. Zima Jrn, B. Isua, M. Sisol, L. Sam, et al.
[#TGDR603](#) has 697



GENOMIC DIVERSITY, POPULATION STRUCTURE, AND MIGRATION FOLLOWING RAPID RANGE EXPANSION IN THE BALSAM POPLAR, *POPULUS BALSAMIFERA*

TPPS **Genotype**

Keller et al 2010 published in Molecular Ecology

[View in CartograPlant](#)

[Download compressed files](#)

Species Study Details Plants **Genotypes**

Accession	TGDR475
Title	Genomic diversity, population structure, and migration following rapid range expansion in the Balsam Poplar, <i>Populus balsamifera</i>
Authors	Stephen R. Keller
Species	<i>Populus balsamifera</i>
Data Type	Genotype
Study Type	Experimental/Common Garden
File	TGDR475_Plant_Accession_Populus_balsamifera.xlsx
Downloads	TGDR475_Genotype_SNPs_Assay_Populus_balsamifera.xlsx
Population Size	474

Tweets from @TreeGenes



FEATURED STUDY:

[#Speciation](#) in a keystone plant genus is driven by [#elevation](#): a case study in [#NewGuinean](#) [#Ficus](#)

By: S. T. Segar, M. Volf, J. Zima Jrn, B. Isua, M. Sisol, L. Sam, et al.

[#TGDR603](#) has 697

Selected Plants	0
Number of Species	1
Publications Count	1
Number of Layers	0

Plant Dataset Sources

Filters

AND OR ADD RULE ADD GROUP

Study Accession DELETE

equal

APPLY FILTER RESET FILTER

SAVE SESSION



Funded by USDA-NIFA #2018-09223

Funded by AG2PI

Thank You!

TPPS



**Peter
Richter**

**Risharde
Ramnath**



**Vlad
Savitsky**

Curation



**Victoria
Burton**



**Meghan
Myles**

**Madison
Gadomski**



**Isabella
Harding**

Fearless Leader



**Jill
Wegrzyn**

Today's Schedule (in EST!)

11:00-11:20 Introduction to CartograPlant - Dr. Jill Wegrzyn

11:20-11:40 Introduction to Data Submission with TPPS/TPPSc - Emily Grau

11:40-12:00 Introduction to Data Collection/Mobile Phenotyping with TreeSnap - Dr. Margaret Staton

12:00-12:15 Break

12:15-12:35 Behind the Scenes of CartograPlant - Environmental Layers and Data - Risharde Ramnath

12:35-12:55 Analytics with CartograPlant (GWAS and GEA). Part 1 - Gabriel Barrett

12:55-1:15 Analytics with CartograPlant (GWAS and GEA). Part 2 - Dr. Irene Cobo-Simon

1:15-1:30 Q&A