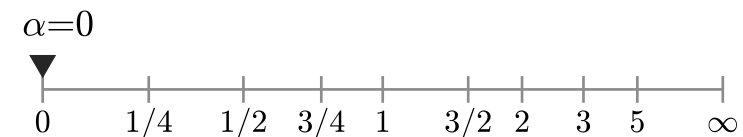


Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

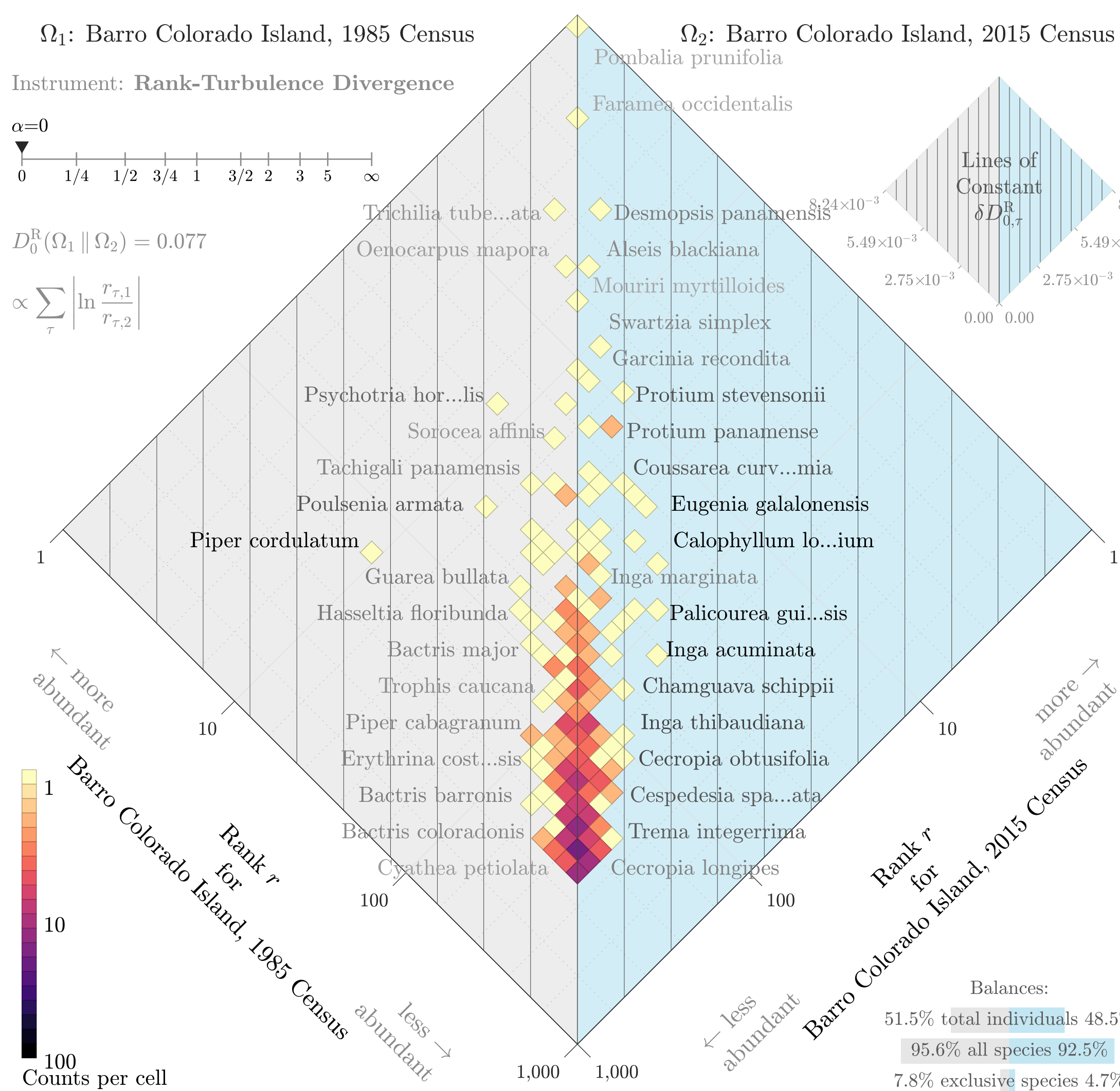
Divergence contribution $\delta D_{0,\tau}^R$ (%)

Instrument: Rank-Turbulence Divergence



$$D_0^R(\Omega_1 \parallel \Omega_2) = 0.077$$

$$\propto \sum_{\tau} \left| \ln \frac{r_{\tau,1}}{r_{\tau,2}} \right|$$



Divergence contribution $\delta D_{0,\tau}^R$ (%)								
4	3	2	1	0	1	2	3	4
Piper cordulatum	9	138						
Poulsenia armata	14	53						
Psychotria horizontalis	8	23	65	22				Calophyllum longifolium
Hasseltia floribunda	37	77						Eugenia galalonensis
Guarea bullata	34	70						Palicourea guianensis
Bactris barronis	137	269						Inga acuminata
Chamguava schippii	127	65						Cecropia insignis
Inga thibaudiana	180	94						Cupania seemannii
Cecropia obtusifolia	185	100						Xylopia macrantha
Ocotea whitei	44	81						
Virola sebifera	22	40						
Anaxagorea panamensis	78	43						
Bactris major	48	86						
Protium stevensonii	16	9						
Tachigali panamensis	17	30						
Piper cabagranum	98	170						
Erythrina costaricensis	103	178						
Piper culebranum	123	213						
Guatteria lucens	29	50						
Coussarea curvigemma	31	18						
Xylosma oligandra	97	165						
Piper playablancanum	140	236						
Bactris coloradonis	185	308						
Cespedesia spathulata	250	151						
Bactris coloniata	116	188						
Trema integerrima	313	195						
Pouteria reticulata	30	48						
Pourouma bicolor	204	128						
Conostegia cinnamomea	85	135						
Protium panamense	19	12						
Chrysophyllum argenteum	89	57						
Protium tenuifolium	20	13						
Psychotria marginata	74	49						
Balances:								
51.5% total individuals	48.5%							
95.6% all species	92.5%							
7.8% exclusive species	4.7%							
50.0%—50.0%								

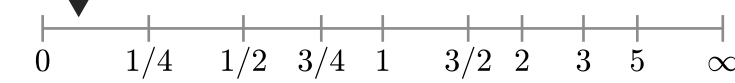
Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

Divergence contribution $\delta D_{1/12,\tau}^R$ (%)

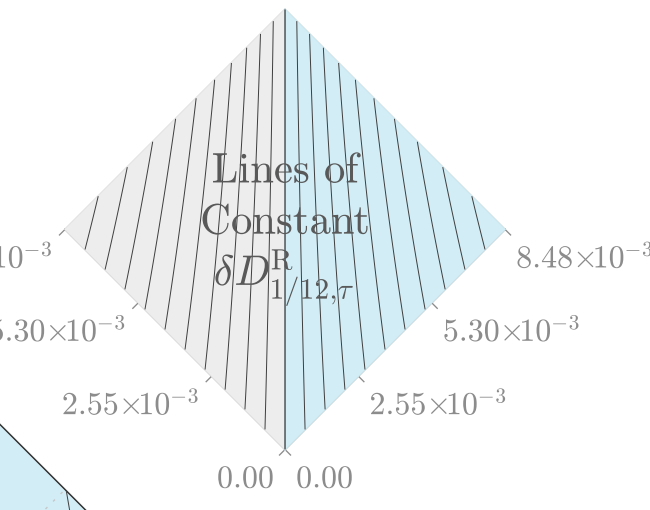
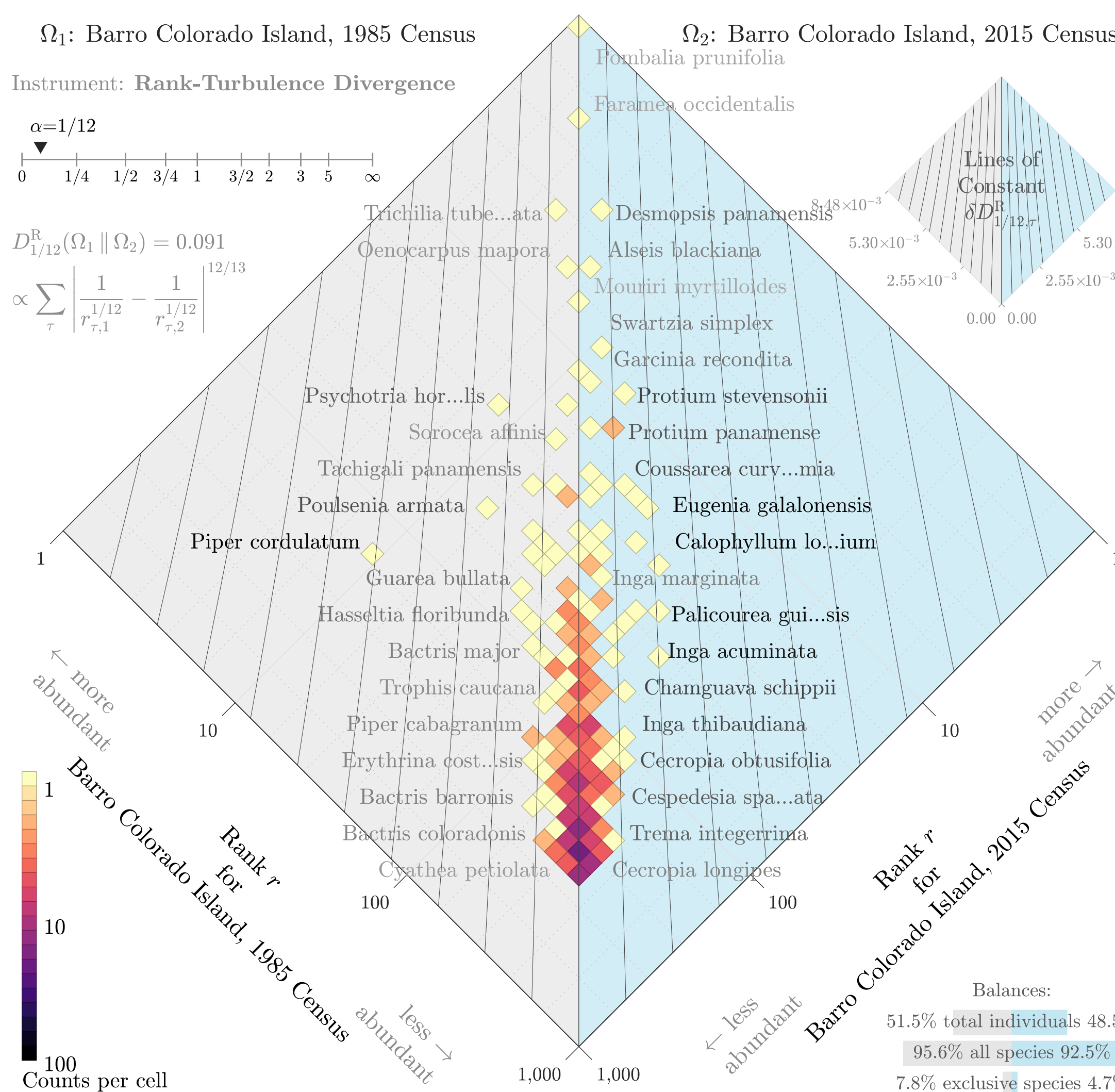
Instrument: Rank-Turbulence Divergence

$\alpha=1/12$



$$D_{1/12}^R(\Omega_1 \parallel \Omega_2) = 0.091$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{1/12}} - \frac{1}{r_{\tau,2}^{1/12}} \right|^{12/13}$$



Divergence contribution $\delta D_{1/12,\tau}^R$ (%)						
3	2	1	0	1	2	3
Piper cordulatum	9	138				
Poulsenia armata	14	53				
Psychotria horizontalis	8	23				
	46	16	Eugenia galalonensis			
	65	22	Calophyllum longifolium			
	93	33	Palicourea guianensis			
	121	45	Inga acuminata			
	39	17	Cupania seemannii			
	83	35	Cecropia insignis			
	54	25	Xylopia macrantha			
Hasseltia floribunda	37	77				
Guarea bullata	34	70				
	16	9	Protium stevensonii			
	127	65	Chamguava schippii			
Virola sebifera	22	40				
Tachigali panamensis	17	30				
Bactris barronis	137	269				
Ocotea whitei	44	81				
	180	94	Inga thibaudiana			
	78	43	Anaxagorea panamensis			
	31	18	Coussarea curvigemma			
Bactris major	48	86				
	185	100	Cecropia obtusifolia			
Guatteria lucens	29	50				
Piper cabagranum	98	170				
	19	12	Protium panamense			
Erythrina costaricensis	103	178				
Piper culebranum	123	213				
Xylosma oligandra	97	165				
Pouteria reticulata	30	48				
	20	13	Protium tenuifolium			
Piper playablancanum	140	236				
	250	151	Cespedesia spathulata			
<Bactris coloradonis	185	308				
Bactris coloniata	116	188				
Conostegia cinnamomea	85	135				
	89	57	Chrysophyllum argenteum			
	204	128	Pourouma bicolor			
Cordia lasiocalyx	28	42				
	313	195	Trema integerrima			
						49.8%—50.2%

Balances:
 51.5% total individuals 48.5%
 95.6% all species 92.5%
 7.8% exclusive species 4.7%

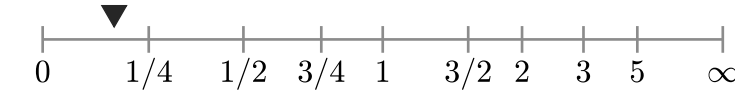
Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

Divergence contribution $\delta D_{1/6,\tau}^R$ (%)

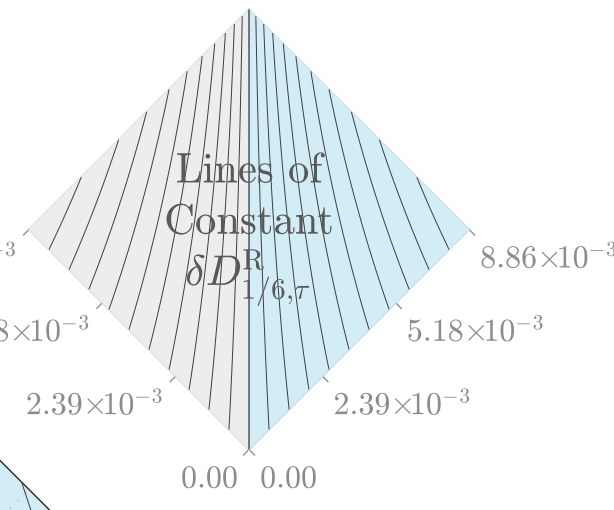
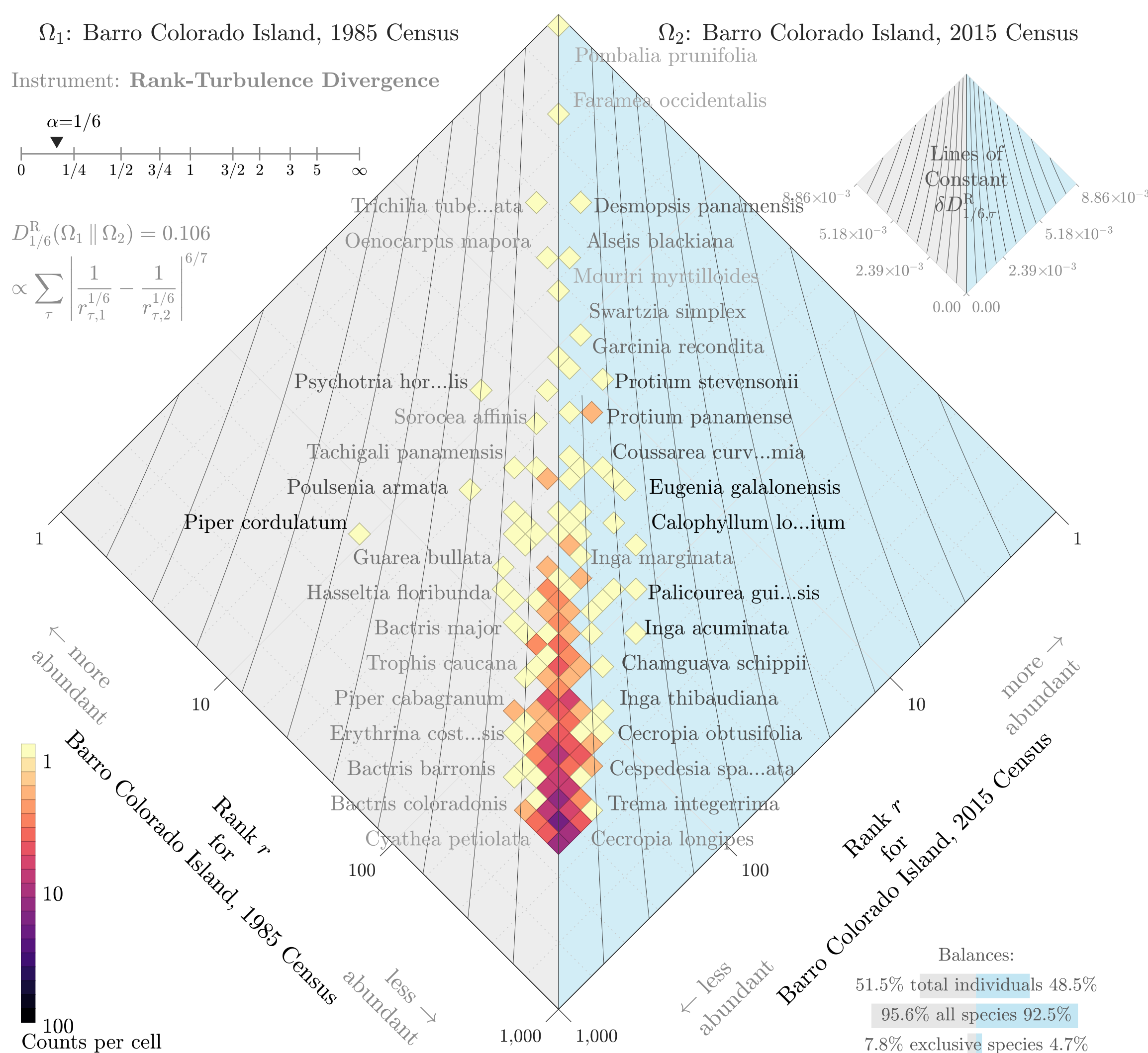
Instrument: Rank-Turbulence Divergence

$\alpha=1/6$



$$D_{1/6}^R(\Omega_1 \parallel \Omega_2) = 0.106$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{1/6}} - \frac{1}{r_{\tau,2}^{1/6}} \right|^{6/7}$$



Divergence contribution $\delta D_{1/6,\tau}^R$ (%)						
3	2	1	0	1	2	3
Piper cordulatum	9	138				
Poulsenia armata	14	53				
Psychotria horizontalis	8	23				
Eugenia galalonensis	46	16				
Calophyllum longifolium	65	22				
Palicourea guianensis	93	33				
Cupania seemannii	39	17				
Inga acuminata	121	45				
Cecropia insignis	83	35				
Xylopia macrantha	54	25				
Protium stevensonii	16	9				
Guarea bullata	34	70				
Hasseltia floribunda	37	77				
Virola sebifera	22	40				
Tachigali panamensis	17	30				
Coussarea curvigemma	31	18				
Changuava schippii	127	65				
Ocotea whitei	44	81				
Anaxagorea panamensis	78	43				
Guatteria lucens	29	50				
Protium panamense	19	12				
Bactris major	48	86				
Inga thibaudiana	180	94				
Bactris barronis	137	269				
Cecropia obtusifolia	185	100				
Protium tenuifolium	20	13				
Pouteria reticulata	30	48				
Piper cabagranum	98	170				
Erythrina costaricensis	103	178				
Xylosma oligandra	97	165				
Piper culebratum	123	213				
Trichilia tuberculata	3	4				
Desmopsis panamensis	4	3				
Cordia lasiocalyx	28	42				
Piper playablancanum	140	236				
Chrysophyllum argenteum	89	57				
Conostegia cinnamomea	85	135				
Bactris coloniata	116	188				
Cespedesia spathulata	250	151				
Psychotria marginata	74	49				
Balances:						
51.5% total individuals			48.5%			
95.6% all species			92.5%			
7.8% exclusive species			4.7%			
49.6%—50.4%						

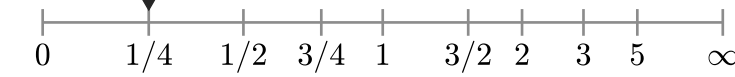
Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

Divergence contribution $\delta D_{1/4,\tau}^R$ (%)

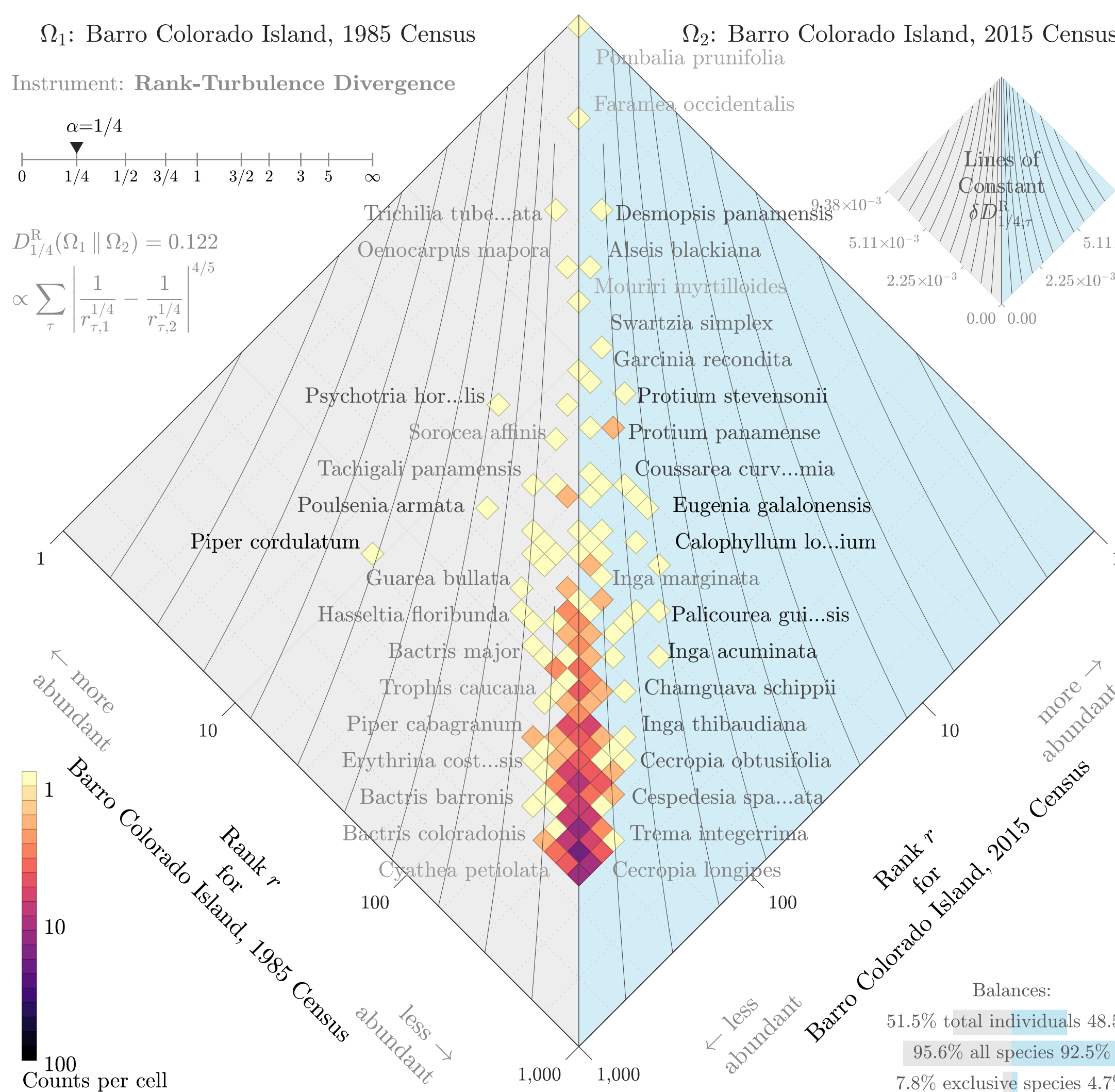
Instrument: Rank-Turbulence Divergence

$\alpha=1/4$



$$D_{1/4}^R(\Omega_1 \parallel \Omega_2) = 0.122$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{1/4}} - \frac{1}{r_{\tau,2}^{1/4}} \right|^{4/5}$$



		3	2	1	0	1	2	3
	Piper cordulatum				9	138		
	Poulsenia armata				14	53		
	Psychotria horizontalis				8	23		
					46	16		Eugenia galalonensis
					65	22		Calophyllum longifolium
					93	33		Palicourea guianensis
					39	17		Cupania seemannii
					121	45		Inga acuminata
					83	35		Cecropia insignis
					54	25		Xylopia macrantha
					16	9		Protium stevensonii
	Guarea bullata				34	70		
	Hasseltia floribunda				37	77		
	Tachigali panamensis				17	30		
	Virola sebifera				22	40		
					31	18		Coussarea curvigemma
					19	12		Protium panamense
	Ocotea whitei				44	81		
	Guatteria lucens				29	50		
					127	65		Chamguava schippii
					78	43		Anaxagorea panamensis
					20	13		Protium tenuifolium
	Trichilia tuberculata				3	4		
					4	3		Desmopsis panamensis
	Bactris major				48	86		
					180	94		Inga thibaudiana
	Pouteria reticulata				30	48		
	Bactris barronis				137	269		
					185	100		Cecropia obtusifolia
	Cordia lasiocalyx				28	42		
	Piper cabagranum				98	170		
	Erythrina costaricensis				103	178		
	Xylosma oligandra				97	165		
	Piper culebratum				123	213		
					89	57		Chrysophyllum argenteum
					61	41		Cassipourea elliptica
					74	49		Psychotria marginata
	Pterocarpus hayesii				32	46		
	Conostegia cinnamomea				85	135		
	Piper playablancanum				140	236		
								49.4%—50.6%

Balances:
 51.5% total individuals 48.5%
 95.6% all species 92.5%
 7.8% exclusive species 4.7%

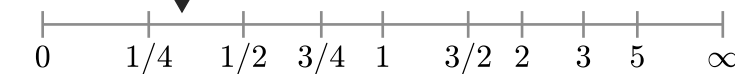
Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

Divergence contribution $\delta D_{1/3,\tau}^R$ (%)

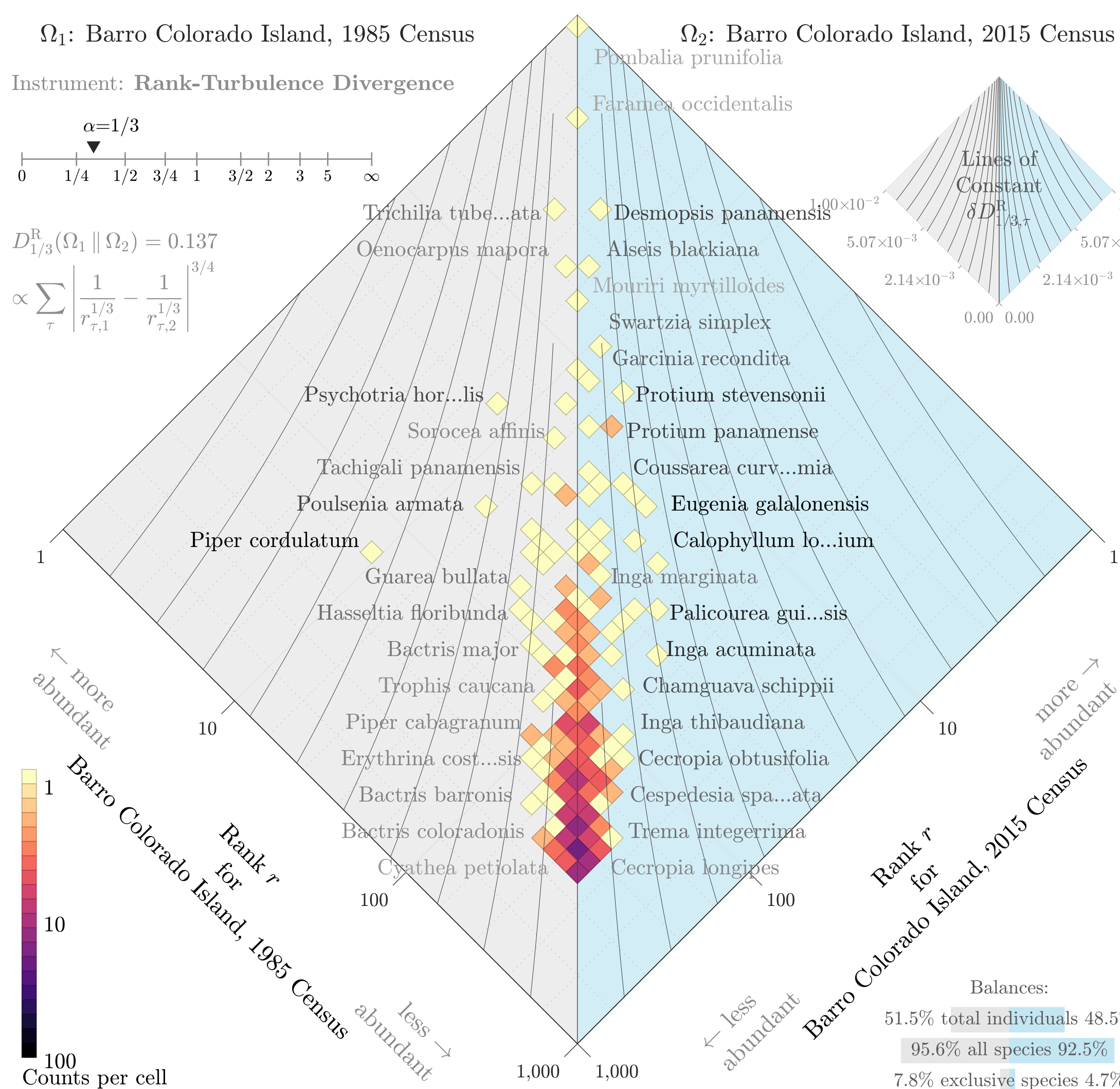
Instrument: Rank-Turbulence Divergence

$\alpha=1/3$



$$D_{1/3}^R(\Omega_1 \parallel \Omega_2) = 0.137$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{1/3}} - \frac{1}{r_{\tau,2}^{1/3}} \right|^{3/4}$$



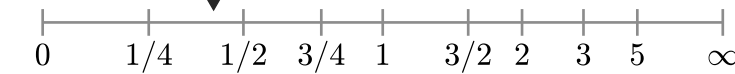
Divergence contribution $\delta D_{1/3,\tau}^R$ (%)						
3	2	1	0	1	2	3
Piper cordulatum	9	138				
Poulsenia armata	14	53				
Psychotria horizontalis	8	23				
	46	16	Eugenia galalonensis			
	65	22	Calophyllum longifolium			
	39	17	Cupania seemannii			
	93	33	Palicourea guianensis			
	16	9	Protium stevensonii			
	121	45	Inga acuminata			
	54	25	Xylopia macrantha			
	83	35	Cecropia insignis			
Tachigali panamensis	17	30				
Guarea bullata	34	70				
Hasseltia floribunda	37	77				
Virola sebifera	22	40				
Trichilia tuberculata	3	4				
	4	3	Desmopsis panamensis			
	31	18	Coussarea curvigemma			
	19	12	Protium panamense			
	20	13	Protium tenuifolium			
Guatteria lucens	29	50				
Ocotea whitei	44	81				
	78	43	Anaxagorea panamensis			
	127	65	Changuava schippii			
Bactris major	48	86				
Pouteria reticulata	30	48				
	180	94	Inga thibaudiana			
Cordia lasiocalyx	28	42				
	185	100	Cecropia obtusifolia			
Bactris barronis	137	269				
	13	10	Garcinia reconcita			
Piper cabagranum	98	170				
	61	41	Cassipourea elliptica			
Pterocarpus hayesii	32	46				
	89	57	Chrysophyllum argenteum			
	10	8	Swartzia simplex			
Erythrina costaricensis	103	178				
Xylosma oligandra	97	165				
	74	49	Psychotria marginata			
Oenocarpus mapora	5	6				
Balances:						
51.5% total individuals		48.5%				
95.6% all species		92.5%				
7.8% exclusive species		4.7%				
		49.3%—50.7%				

Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

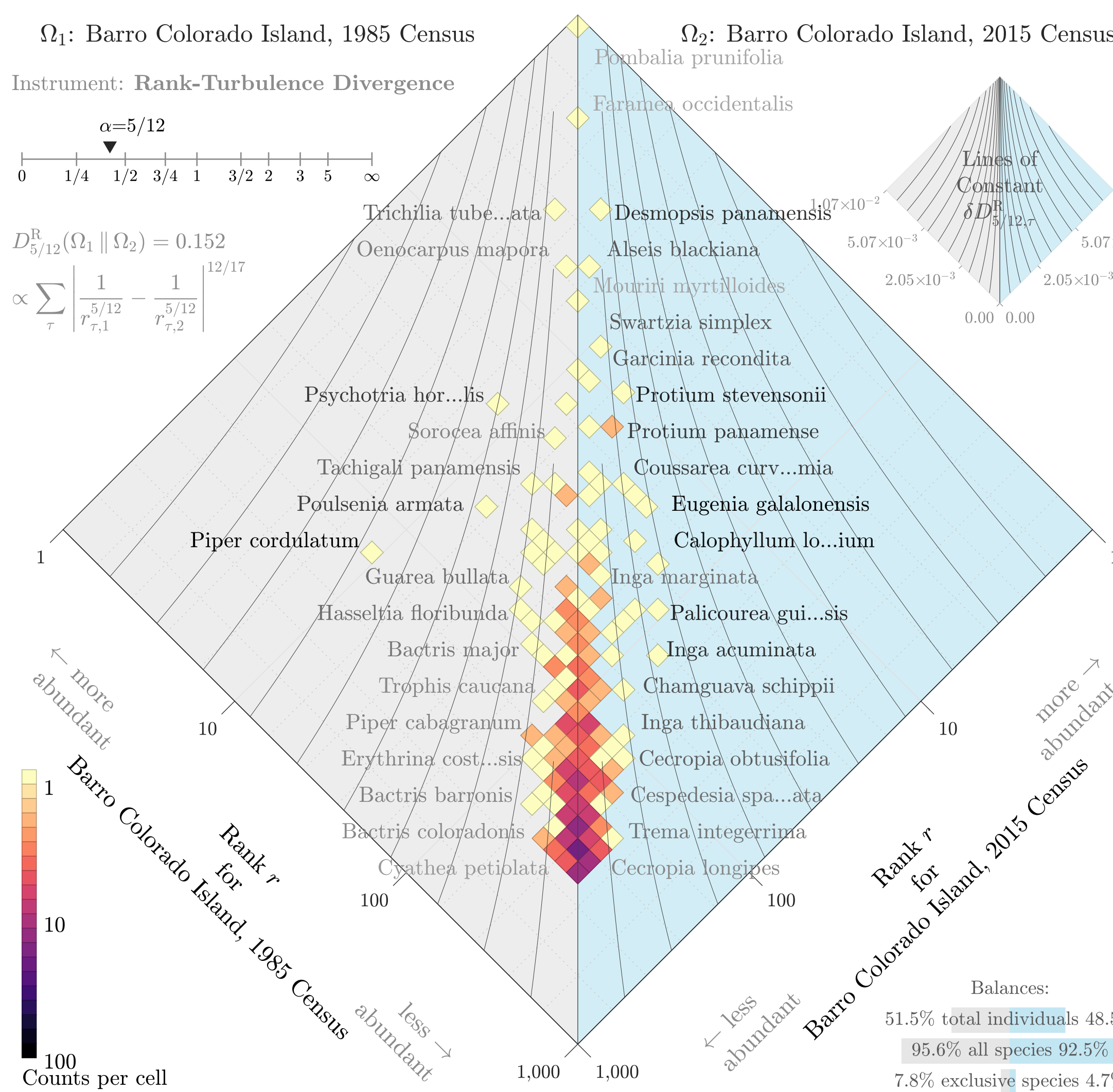
Instrument: Rank-Turbulence Divergence

$\alpha=5/12$



$$D_{5/12}^R(\Omega_1 \parallel \Omega_2) = 0.152$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{5/12}} - \frac{1}{r_{\tau,2}^{5/12}} \right|^{12/17}$$



Divergence contribution $\delta D_{5/12,\tau}^R$ (%)

2 1 0 1 2

Piper cordulatum	9 \rightleftharpoons 138
Psychotria horizontalis	8 \rightleftharpoons 23
Poulsenia armata	14 \rightleftharpoons 53
Eugenia galalonensis	46 \rightleftharpoons 16
Calophyllum longifolium	65 \rightleftharpoons 22
Cupania seemannii	39 \rightleftharpoons 17
Protium stevensonii	16 \rightleftharpoons 9
Palicourea guianensis	93 \rightleftharpoons 33
Xylopia macrantha	54 \rightleftharpoons 25
Trichilia tuberculata	3 \rightleftharpoons 4
Desmopsis panamensis	4 \rightleftharpoons 3
Inga acuminata	121 \rightleftharpoons 45
Cecropia insignis	83 \rightleftharpoons 35
Tachigali panamensis	17 \rightleftharpoons 30
Protium panamense	19 \rightleftharpoons 12
Virola sebifera	22 \rightleftharpoons 40
Coussarea curvigemma	31 \rightleftharpoons 18
Guarea bullata	34 \rightleftharpoons 70
Hasseltia floribunda	37 \rightleftharpoons 77
Protium tenuifolium	20 \rightleftharpoons 13
Guatteria lucens	29 \rightleftharpoons 50
Ocotea whitei	44 \rightleftharpoons 81
Anaxagorea panamensis	78 \rightleftharpoons 43
Pouteria reticulata	30 \rightleftharpoons 48
Bactris major	48 \rightleftharpoons 86
Changuava schippii	127 \rightleftharpoons 65
Garcinia recondita	13 \rightleftharpoons 10
Cordia lasiocalyx	28 \rightleftharpoons 42
Oenocarpus mapora	5 \rightleftharpoons 6
Alseis blackiana	6 \rightleftharpoons 5
Swartzia simplex	10 \rightleftharpoons 8
Inga thibaudiana	180 \rightleftharpoons 94
Cecropia obtusifolia	185 \rightleftharpoons 100
Pterocarpus hayesii	32 \rightleftharpoons 46
Rinorea sylvatica	18 \rightleftharpoons 14
Cassipourea elliptica	61 \rightleftharpoons 41
Beilschmiedia tovarensis	21 \rightleftharpoons 28
Bactris barronis	137 \rightleftharpoons 269
Capparidastrum frondosum	12 \rightleftharpoons 15
Chrysophyllum argenteum	89 \rightleftharpoons 57

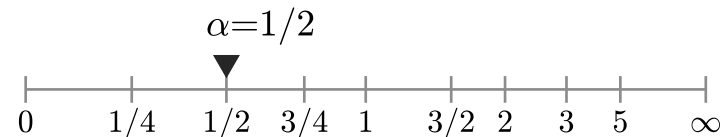
Balances:
 51.5% total individuals 48.5%
 95.6% all species 92.5%
 7.8% exclusive species 4.7%

Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

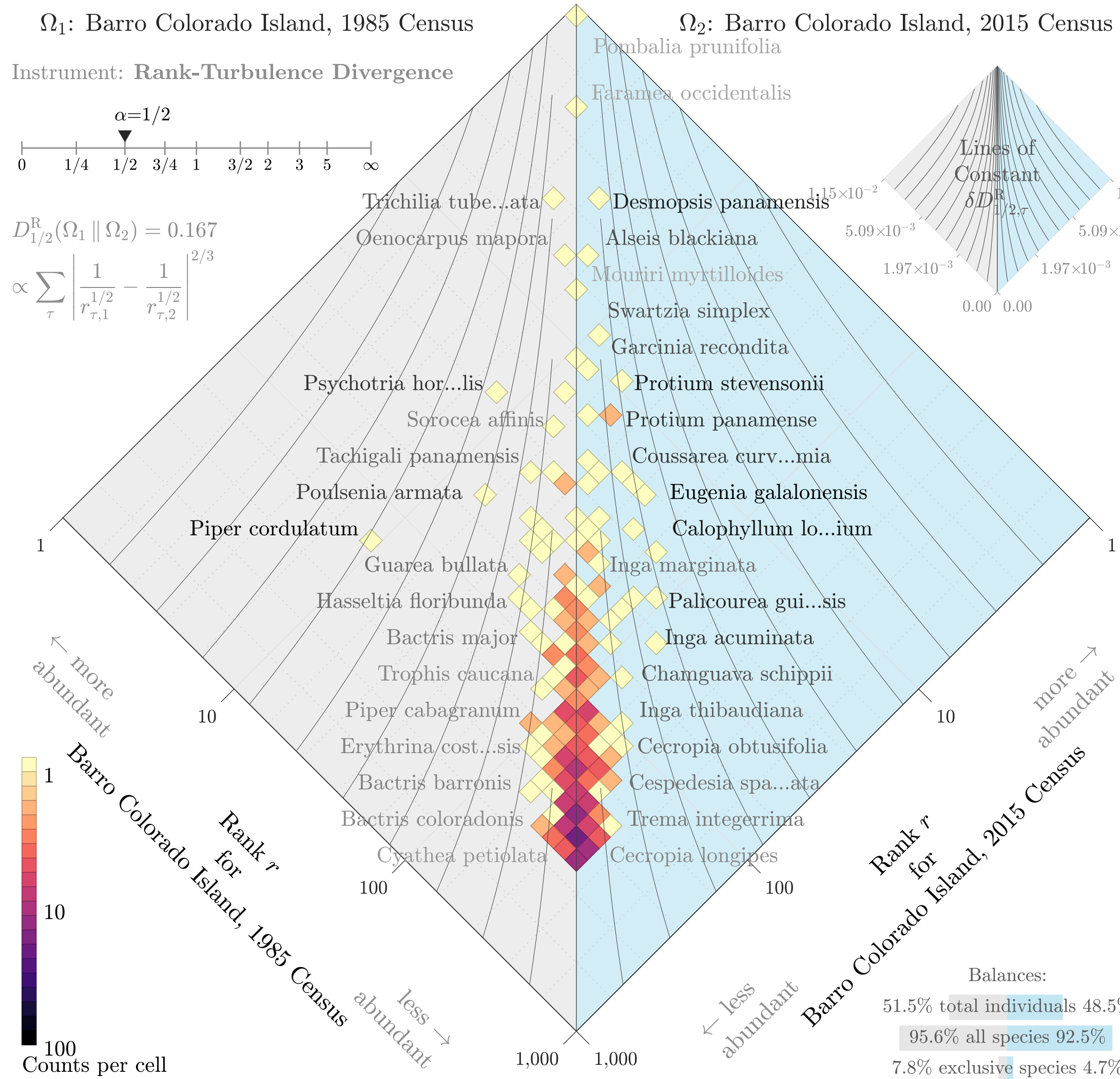
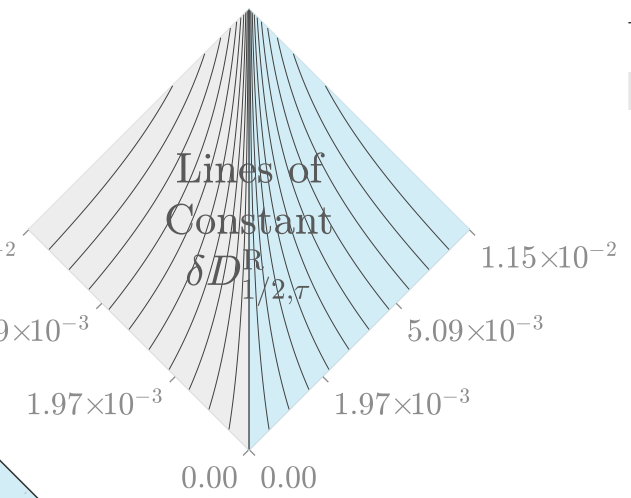
Divergence contribution $\delta D_{1/2,\tau}^R$ (%)

Instrument: Rank-Turbulence Divergence



$$D_{1/2}^R(\Omega_1 \parallel \Omega_2) = 0.167$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{1/2}} - \frac{1}{r_{\tau,2}^{1/2}} \right|^{2/3}$$



Divergence contribution $\delta D_{1/2,\tau}^R$ (%)	
2	1 0 1 2
Piper cordulatum	9 \rightleftharpoons 138
Psychotria horizontalis	8 \rightleftharpoons 23
Poulsenia armata	14 \rightleftharpoons 53
Eugenia galalonensis	46 \rightleftharpoons 16
Calophyllum longifolium	65 \rightleftharpoons 22
Protium stevensonii	16 \rightleftharpoons 9
Cupania seemannii	39 \rightleftharpoons 17
Trichilia tuberculata	3 \rightleftharpoons 4
Desmopsis panamensis	4 \rightleftharpoons 3
Palicourea guianensis	93 \rightleftharpoons 33
Xylopia macrantha	54 \rightleftharpoons 25
Tachigali panamensis	17 \rightleftharpoons 30
Cecropia insignis	83 \rightleftharpoons 35
Protium panamense	19 \rightleftharpoons 12
Inga acuminata	121 \rightleftharpoons 45
Coussarea curvigemma	31 \rightleftharpoons 18
Virola sebifera	22 \rightleftharpoons 40
Protium tenuifolium	20 \rightleftharpoons 13
Guarea bullata	34 \rightleftharpoons 70
Hasseltia floribunda	37 \rightleftharpoons 77
Guatteria lucens	29 \rightleftharpoons 50
Ocotea whitei	44 \rightleftharpoons 81
Anaxagorea panamensis	78 \rightleftharpoons 43
Oenocarpus mapora	5 \rightleftharpoons 6
Alseis blackiana	6 \rightleftharpoons 5
Garcinia reconcita	13 \rightleftharpoons 10
Pouteria reticulata	30 \rightleftharpoons 48
Swartzia simplex	10 \rightleftharpoons 8
Bactris major	48 \rightleftharpoons 86
Changuava schippii	127 \rightleftharpoons 65
Cordia lasiocalyx	28 \rightleftharpoons 42
Rinorea sylvatica	18 \rightleftharpoons 14
Capparidastrum frondosum	12 \rightleftharpoons 15
Pterocarpus hayesii	32 \rightleftharpoons 46
Beilschmiedia tovarensis	21 \rightleftharpoons 28
Sorocea affinis	15 \rightleftharpoons 19
Inga thibaudiana	180 \rightleftharpoons 94
Cassipourea elliptica	61 \rightleftharpoons 41
Psychotria marginata	74 \rightleftharpoons 49
Cecropia obtusifolia	185 \rightleftharpoons 100

Balances:

51.5% total individuals 48.5%

95.6% all species 92.5%

7.8% exclusive species 4.7%

49.1%—50.9%

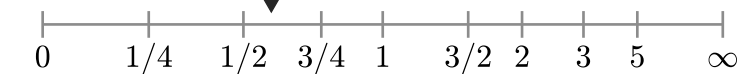
Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

Divergence contribution $\delta D_{7/12,\tau}^R$ (%)

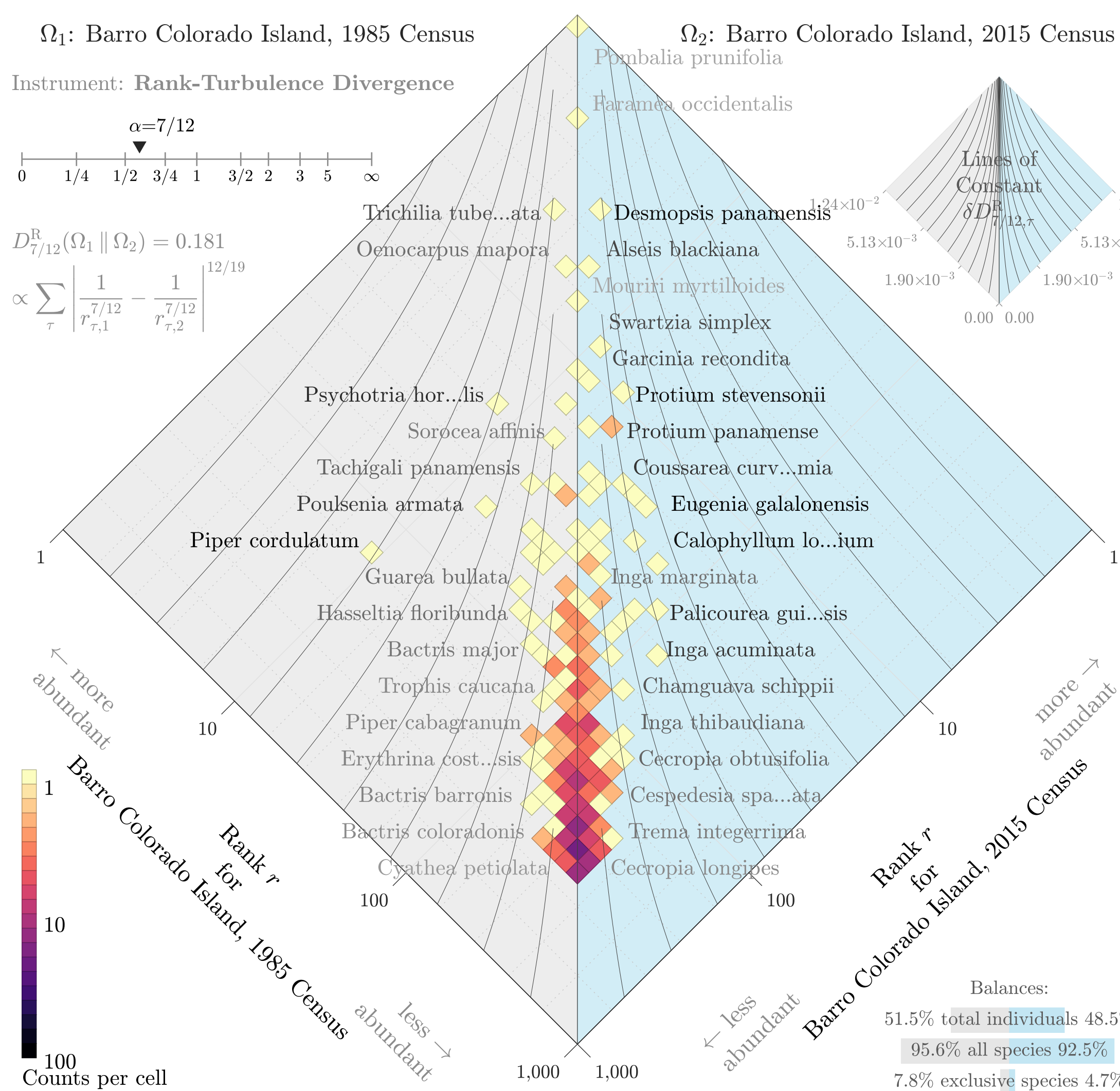
Instrument: Rank-Turbulence Divergence

$\alpha=7/12$



$$D_{7/12}^R(\Omega_1 \parallel \Omega_2) = 0.181$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{7/12}} - \frac{1}{r_{\tau,2}^{7/12}} \right|^{12/19}$$



Divergence contribution $\delta D_{7/12,\tau}^R$ (%)				
2	1	0	1	2
Piper cordulatum	9	⇒	138	
Psychotria horizontalis	8	⇒	23	
Poulsenia armata	14	⇒	53	
Trichilia tuberculata	46	⇒	16	Eugenia galalonensis
Oenocarpus mapora	3	⇒	4	Desmopsis panamensis
Trichilia tuberculata	4	⇒	3	Protium stevensonii
Desmopsis panamensis	16	⇒	9	Calophyllum longifolium
Protium stevensonii	65	⇒	22	Cupania seemanii
Calophyllum longifolium	39	⇒	17	Palicourea guianensis
Cupania seemanii	93	⇒	33	Xylopia macrantha
Palicourea guianensis	54	⇒	25	Protium panamense
Xylopia macrantha	19	⇒	12	Tachigali panamensis
Protium panamense	17	⇒	30	Coussarea curvigemma
Tachigali panamensis	31	⇒	18	Protium tenuifolium
Coussarea curvigemma	20	⇒	13	Cecropia insignis
Protium tenuifolium	83	⇒	35	Virola sebifera
Cecropia insignis	22	⇒	40	Inga acuminata
Virola sebifera	121	⇒	45	Guarea bullata
Inga acuminata	34	⇒	70	Hasseltia floribunda
Guarea bullata	37	⇒	77	Oenocarpus mapora
Hasseltia floribunda	5	⇒	6	Alseis blackiana
Oenocarpus mapora	6	⇒	5	Guatteria lucens
Alseis blackiana	29	⇒	50	Garcinia recondita
Guatteria lucens	13	⇒	10	Swartzia simplex
Garcinia recondita	10	⇒	8	Pouteria reticulata
Swartzia simplex	30	⇒	48	Ocotea whitei
Pouteria reticulata	44	⇒	81	Anaxagorea panamensis
Ocotea whitei	78	⇒	43	Cordia lasiocalyx
Anaxagorea panamensis	28	⇒	42	Bactris major
Cordia lasiocalyx	48	⇒	86	Rinorea sylvatica
Bactris major	18	⇒	14	Capparidastrum frondosum
Rinorea sylvatica	12	⇒	15	Chamguava schippii
Capparidastrum frondosum	127	⇒	65	Sorocea affinis
Chamguava schippii	15	⇒	19	Beilschmiedia tovarensis
Sorocea affinis	21	⇒	28	Pterocarpus hayesii
Beilschmiedia tovarensis	32	⇒	46	Cassipourea elliptica
Pterocarpus hayesii	61	⇒	41	Inga thibaudiana
Cassipourea elliptica	180	⇒	94	Psychotria marginata
Inga thibaudiana	74	⇒	49	Chrysophyllum argenteum
Psychotria marginata	89	⇒	57	
Chrysophyllum argenteum				49.0%—51.0%

Balances:

51.5% total individuals 48.5%

95.6% all species 92.5%

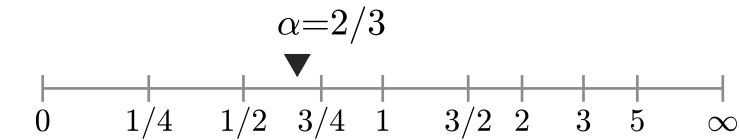
7.8% exclusive species 4.7%

Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

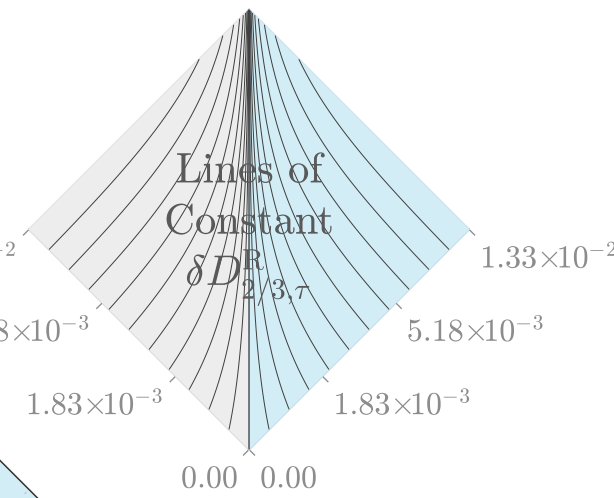
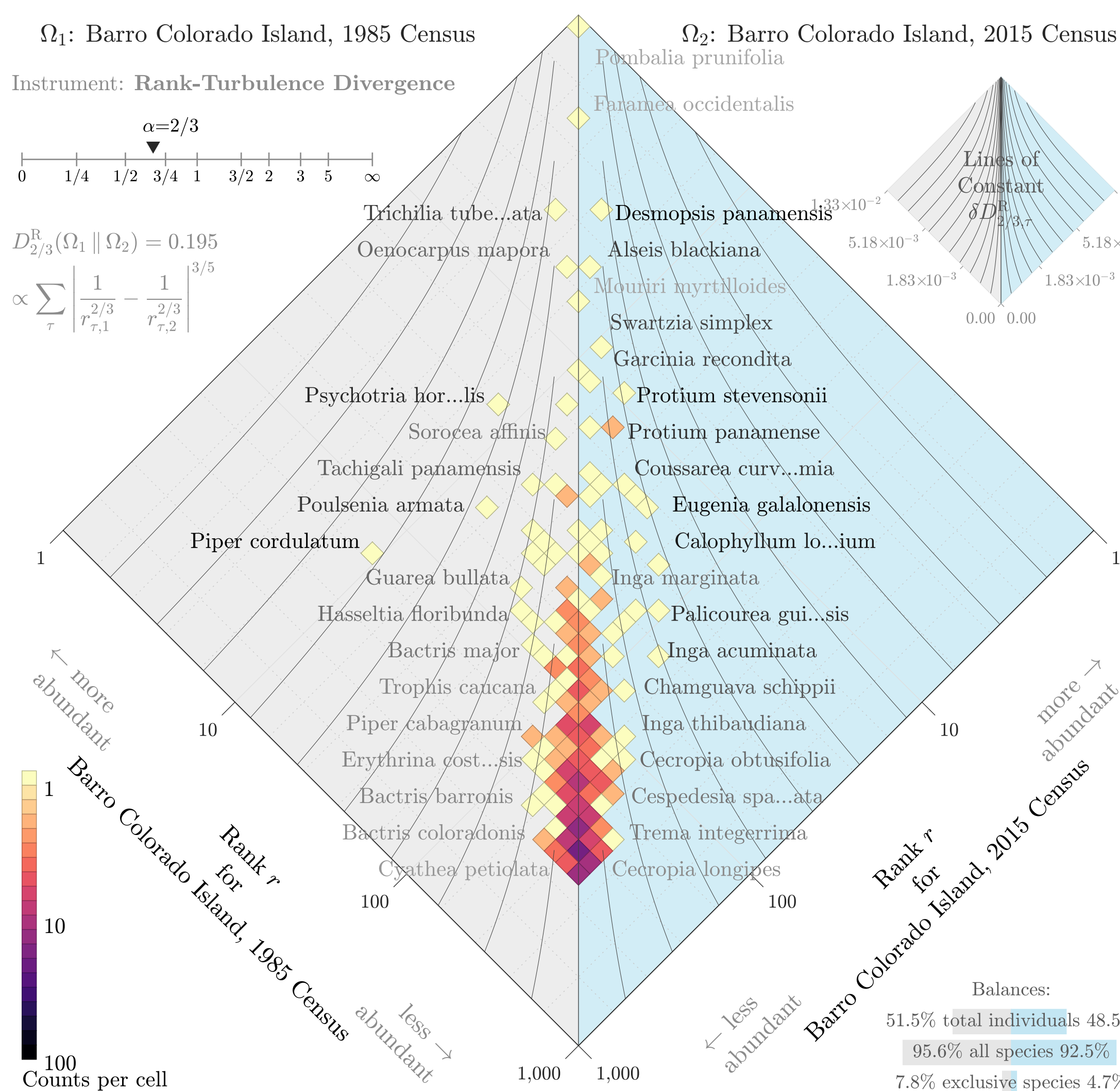
Instrument: Rank-Turbulence Divergence

Divergence contribution $\delta D_{2/3,\tau}^R$ (%)



$$D_{2/3}^R(\Omega_1 \parallel \Omega_2) = 0.195$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{2/3}} - \frac{1}{r_{\tau,2}^{2/3}} \right|^{3/5}$$



Divergence contribution $\delta D_{2/3,\tau}^R$ (%)	
2	1 0 1 2
Piper cordulatum	9 \Rightarrow 138
Psychotria horizontalis	8 \Rightarrow 23
Poulsenia armata	14 \Rightarrow 53
Trichilia tuberculata	3 \Rightarrow 4
	4 \Rightarrow 3
	46 \Rightarrow 16
	16 \Rightarrow 9
	65 \Rightarrow 22
	39 \Rightarrow 17
	19 \Rightarrow 12
	93 \Rightarrow 33
Tachigali panamensis	17 \Rightarrow 30
	54 \Rightarrow 25
	20 \Rightarrow 13
	31 \Rightarrow 18
Virola sebifera	22 \Rightarrow 40
	83 \Rightarrow 35
Oenocarpus mapora	5 \Rightarrow 6
	6 \Rightarrow 5
	121 \Rightarrow 45
Guarea bullata	34 \Rightarrow 70
Hasseltia floribunda	37 \Rightarrow 77
	13 \Rightarrow 10
	10 \Rightarrow 8
Guatteria lucens	29 \Rightarrow 50
Pouteria reticulata	30 \Rightarrow 48
Ocotea whitei	44 \Rightarrow 81
	78 \Rightarrow 43
	18 \Rightarrow 14
Capparidastrum frondosum	12 \Rightarrow 15
Cordia lasiocalyx	28 \Rightarrow 42
Bactris major	48 \Rightarrow 86
Sorocea affinis	15 \Rightarrow 19
Beilschmiedia towarensis	21 \Rightarrow 28
	127 \Rightarrow 65
Pterocarpus hayesii	32 \Rightarrow 46
	61 \Rightarrow 41
	74 \Rightarrow 49
	38 \Rightarrow 29
	26 \Rightarrow 21
Balances:	
51.5% total individuals	48.5%
95.6% all species	92.5%
7.8% exclusive species	4.7%
	48.9%—51.1%

Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

Divergence contribution $\delta D_{3/4,\tau}^R$ (%)

2 1.5 1 0.5 0 0.5 1 1.5 2

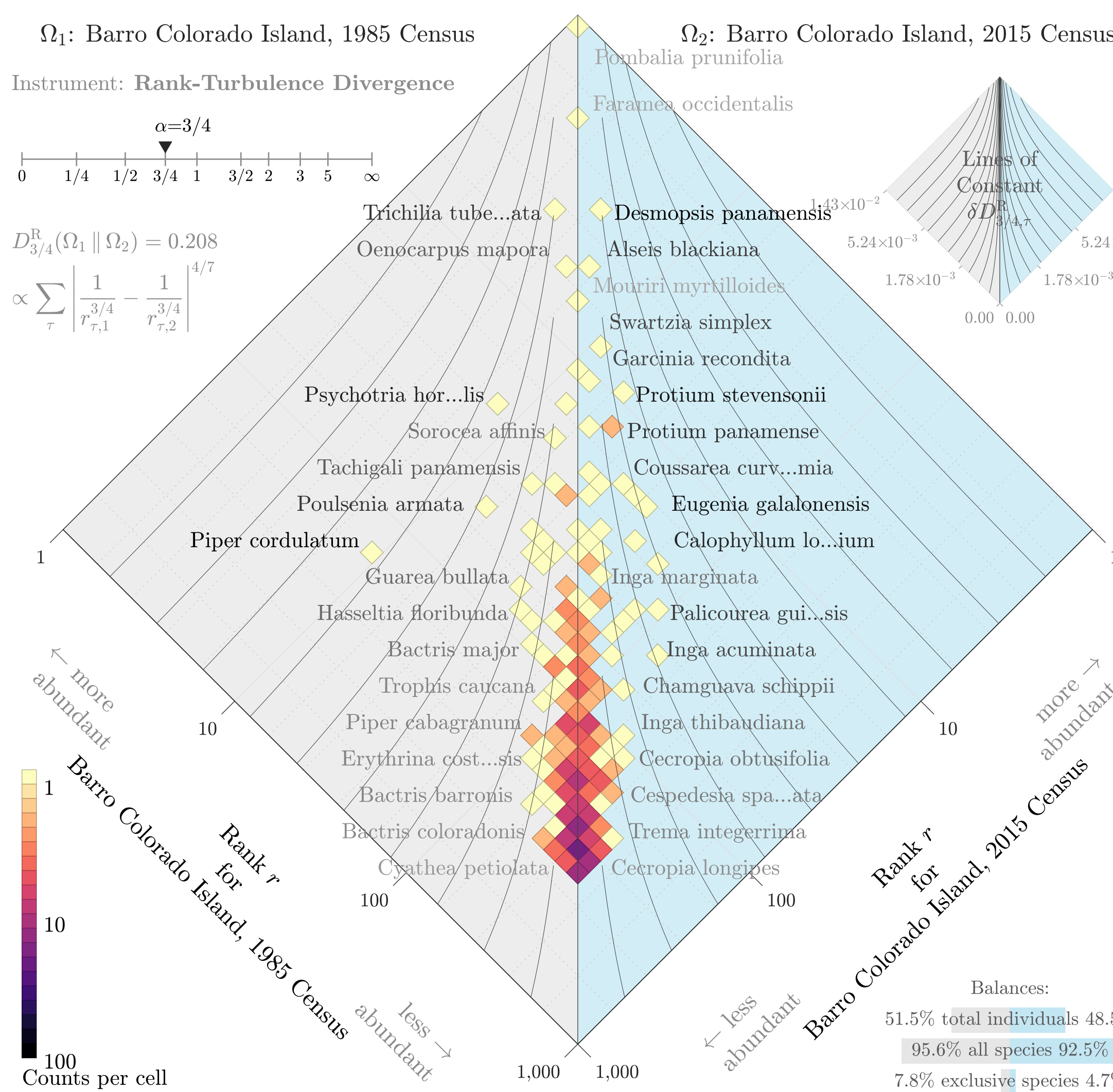
Instrument: Rank-Turbulence Divergence

$\alpha=3/4$

0 1/4 1/2 3/4 1 3/2 2 3 5 ∞

$$D_{3/4}^R(\Omega_1 \parallel \Omega_2) = 0.208$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{3/4}} - \frac{1}{r_{\tau,2}^{3/4}} \right|^{4/7}$$



Species	1985 Rank	2015 Rank	Divergence Contribution (%)
Piper cordulatum	9	138	9.1
Psychotria horizontalis	8	23	8.1
Poulsenia armata	14	53	14.1
Trichilia tuberculata	3	4	3.1
Desmopsis panamensis	4	3	4.1
Eugenia galalonensis	46	16	46.1
Protium stevensonii	16	9	16.1
Cupania seemanii	39	17	39.1
Calophyllum longifolium	65	22	65.1
Protium panamense	19	12	19.1
Tachigali panamensis	17	30	17.1
Protium tenuifolium	20	13	20.1
Xylopia macrantha	54	25	54.1
Palicourea guianensis	93	33	93.1
Coussarea curvigemma	31	18	31.1
Oenocarpus mapora	5	6	5.1
Alseis blackiana	6	5	6.1
Virola sebifera	22	40	22.1
Cecropia insignis	83	35	83.1
Swartzia simplex	10	8	10.1
Garcinia recondita	13	10	13.1
Inga acuminata	121	45	121.1
Guarea bullata	34	70	34.1
Hasseltia floribunda	37	77	37.1
Guatteria lucens	29	50	29.1
Capparidastrium frondosum	12	15	12.1
Rinorea sylvatica	18	14	18.1
Pouteria reticulata	30	48	30.1
Cordia lasiocalyx	28	42	28.1
Ocotea whitei	44	81	44.1
Anaxagorea panamensis	78	43	78.1
Sorocea affinis	15	19	15.1
Beilschmiedia towarensis	21	28	21.1
Bactris major	48	86	48.1
Pterocarpus hayesii	32	46	32.1
Chamguava schippii	127	65	127.1
Cassipourea elliptica	61	41	61.1
Acalypha diversifolia	26	21	26.1
Tabernaemontana arborea	38	29	38.1
Simarouba amara	41	31	41.1

Balances:
 51.5% total individuals 48.5%
 95.6% all species 92.5%
 7.8% exclusive species 4.7%

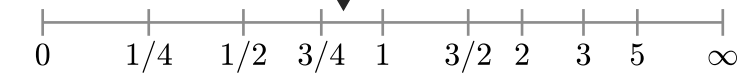
Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

Divergence contribution $\delta D_{5/6,\tau}^R$ (%)

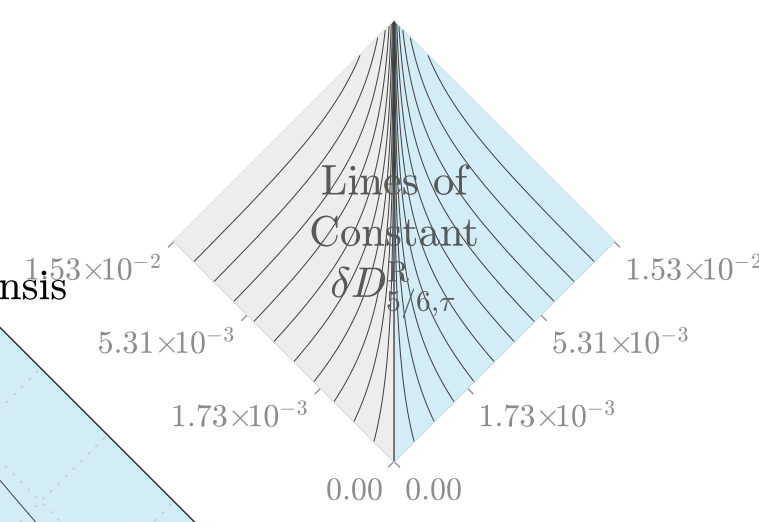
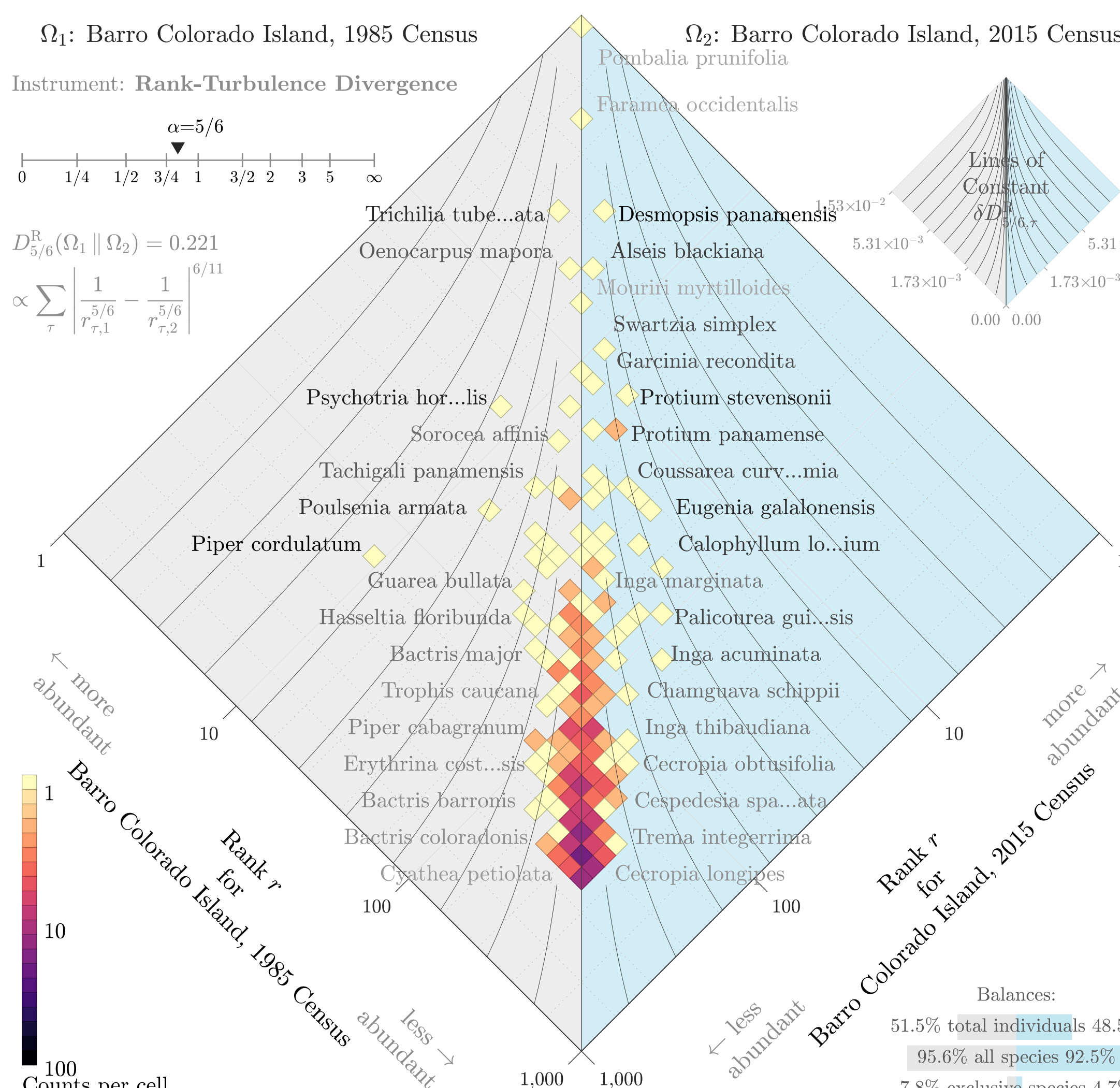
Instrument: Rank-Turbulence Divergence

$\alpha=5/6$



$$D_{5/6}^R(\Omega_1 \parallel \Omega_2) = 0.221$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{5/6}} - \frac{1}{r_{\tau,2}^{5/6}} \right|^{6/11}$$



Divergence contribution $\delta D_{5/6,\tau}^R$ (%)									
2	1.5	1	0.5	0	0.5	1	1.5	2	
Piper cordulatum	9	138							
Psychotria horizontalis	8	23							
Trichilia tuberculata	3	4							
	4	3	Desmopsis panamensis						
Poulsenia armata	14	53							
	16	9	Protium stevensonii						
	46	16	Eugenia galalonensis						
	39	17	Cupania seemannii						
	65	22	Calophyllum longifolium						
	19	12	Protium panamense						
Oenocarpus mapora	5	6							
	6	5	Alseis blackiana						
	20	13	Protium tenuifolium						
Tachigali panamensis	17	30							
	31	18	Coussarea curvigemma						
	54	25	Xylopia macrantha						
	93	33	Palicourea guianensis						
	10	8	Swartzia simplex						
Virola sebifera	22	40							
	13	10	Garcinia recondita						
	83	35	Cecropia insignis						
Guarea bullata	34	70							
	121	45	Inga acuminata						
Hasseltia floribunda	37	77							
Guatteria lucens	29	50							
Capparidastrum frondosum	12	15							
	18	14	Rinorea sylvatica						
Pouteria reticulata	30	48							
Sorocea affinis	15	19							
Cordia lasiocalyx	28	42							
	78	43	Anaxagorea panamensis						
Ocotea whitei	44	81							
Beilschmiedia towarensis	21	28							
Bactris major	48	86							
Pterocarpus hayesii	32	46							
	127	65	Chamguava schippii						
	26	21	Acalypha diversifolia						
	61	41	Cassipourea elliptica						
	38	29	Tabernaemontana arborea						
	41	31	Simarouba amara						
Balances:									
51.5% total individuals		48.5%							
95.6% all species		92.5%							
7.8% exclusive species		4.7%						48.7%—51.3%	

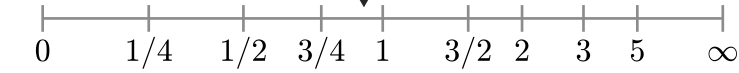
Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

Divergence contribution $\delta D_{11/12,\tau}^R$ (%)

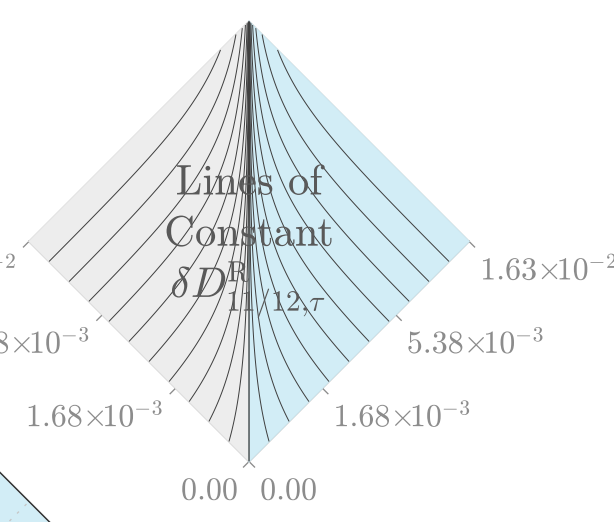
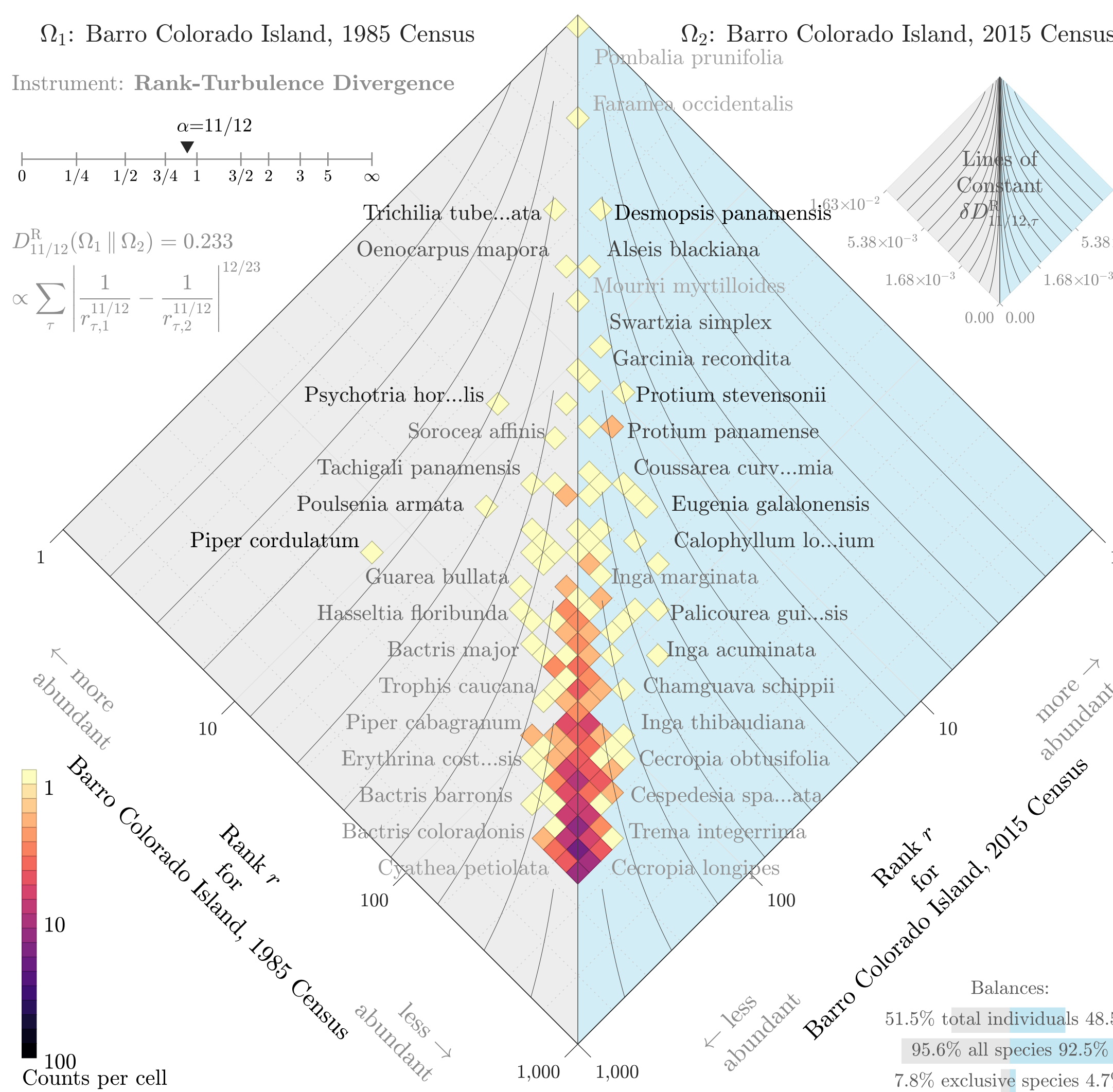
Instrument: Rank-Turbulence Divergence

$\alpha=11/12$



$$D_{11/12}^R(\Omega_1 \parallel \Omega_2) = 0.233$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{11/12}} - \frac{1}{r_{\tau,2}^{11/12}} \right|^{12/23}$$



Species	1985 Rank	2015 Rank	Divergence Contribution (%)
Piper cordulatum	9	138	9.1
Psychotria horizontalis	8	23	8.1
Trichilia tuberculata	3	4	3.1
Desmopsis panamensis	4	3	4.1
Poulsenia armata	14	53	14.1
Protium stevensonii	16	9	16.1
Eugenia galalonensis	46	16	46.1
Cupania seemannii	39	17	39.1
Calophyllum longifolium	65	22	65.1
Protium panamense	19	12	19.1
Oenocarpus mapora	5	6	5.1
Alseis blackiana	6	5	6.1
Protium tenuifolium	20	13	20.1
Tachigali panamensis	17	30	17.1
Coussarea curvigemma	31	18	31.1
Swartzia simplex	10	8	10.1
Xylopia macrantha	54	25	54.1
Garcinia recondita	13	10	13.1
Palicourea guianensis	93	33	93.1
Virola sebifera	22	40	22.1
Cecropia insignis	83	35	83.1
Guarea bullata	34	70	34.1
Capparidastrium frondosum	12	15	12.1
Rinorea sylvatica	18	14	18.1
Inga acuminata	121	45	121.1
Guatteria lucens	29	50	29.1
Hasseltia floribunda	37	77	37.1
Sorocea affinis	15	19	15.1
Pouteria reticulata	30	48	30.1
Cordia lasiocalyx	28	42	28.1
Beilschmiedia towarensis	21	28	21.1
Anaxagorea panamensis	78	43	78.1
Ocotea whitei	44	81	44.1
Bactris major	48	86	48.1
Pterocarpus hayesii	32	46	32.1
Acalypha diversifolia	26	21	26.1
Cassipourea elliptica	61	41	61.1
Tabernaemontana arborea	38	29	38.1
Chamguava schippii	127	65	127.1
Simarouba amara	41	31	41.1

Balances:
 51.5% total individuals 48.5%
 95.6% all species 92.5%
 7.8% exclusive species 4.7%

48.7%—51.3%

Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

Divergence contribution $\delta D_{1,\tau}^R$ (%)

Instrument: Rank-Turbulence Divergence

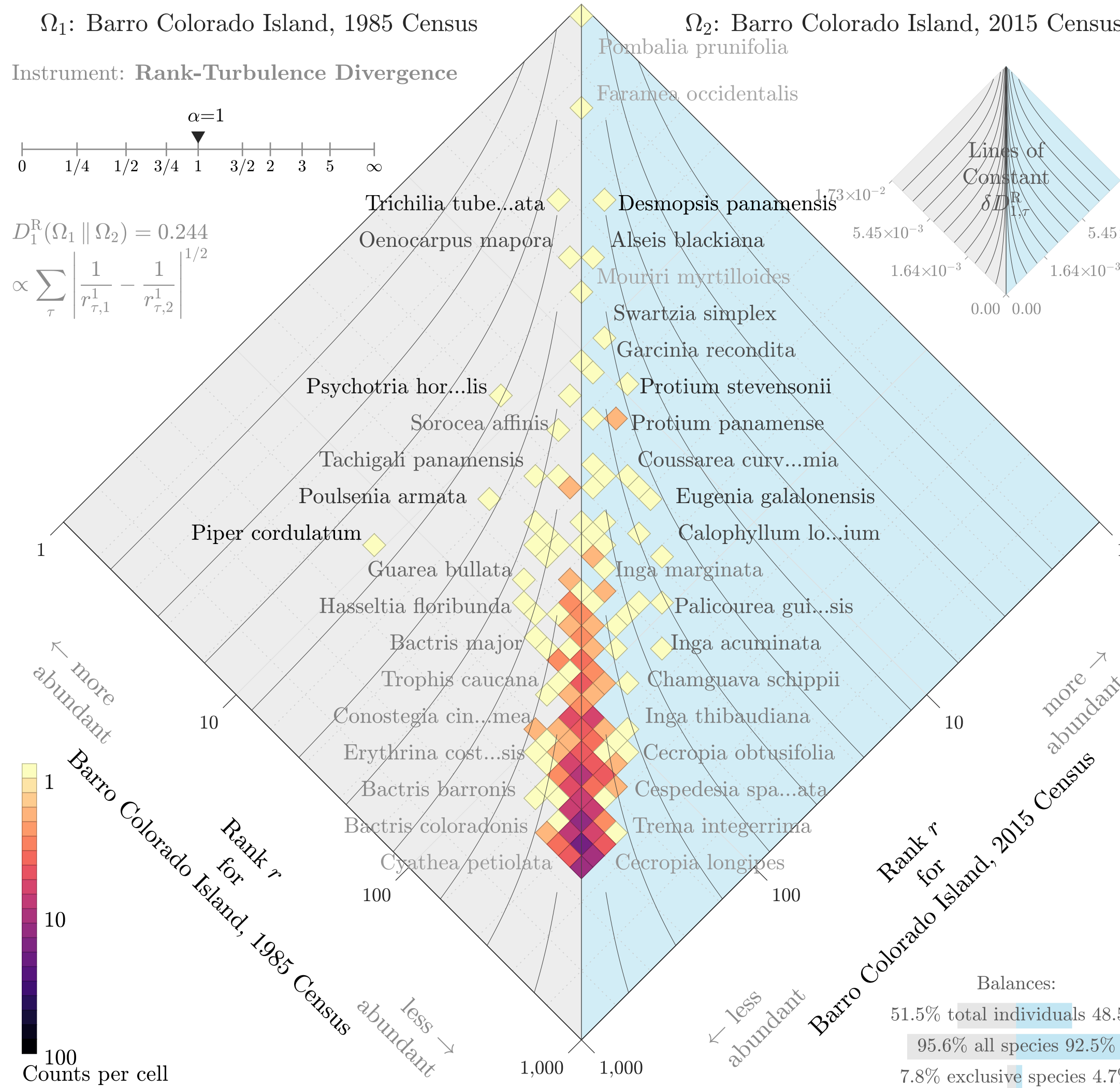
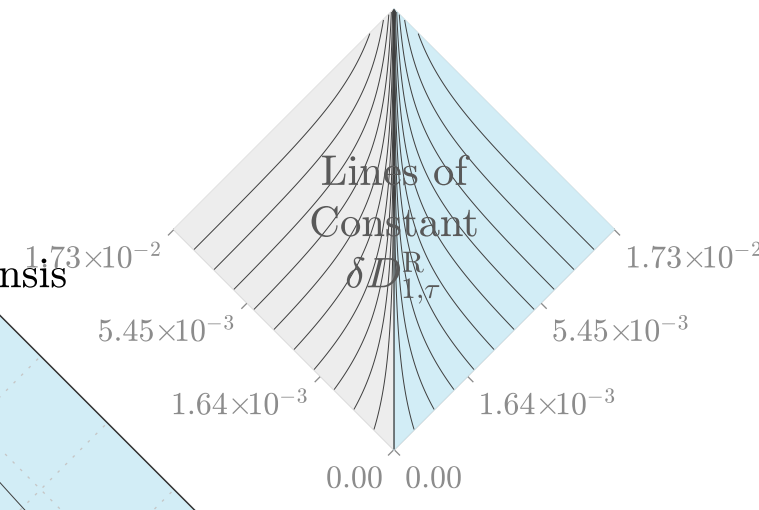
2 1.5 1 0.5 0 0.5 1 1.5 2

$\alpha=1$

0 1/4 1/2 3/4 1 3/2 2 3 5 ∞

$$D_1^R(\Omega_1 \parallel \Omega_2) = 0.244$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^1} - \frac{1}{r_{\tau,2}^1} \right|^{1/2}$$



Piper cordulatum	9 \rightleftharpoons 138
Trichilia tuberculata	3 \rightleftharpoons 4
Psychotria horizontalis	8 \rightleftharpoons 23
Poulsenia armata	14 \rightleftharpoons 53
Oenocarpus mapora	5 \rightleftharpoons 6
Tachigali panamensis	17 \rightleftharpoons 30
Capparidastrum frondosum	12 \rightleftharpoons 15
Guarea bullata	34 \rightleftharpoons 70
Guatteria lucens	29 \rightleftharpoons 50
Hasseltia floribunda	37 \rightleftharpoons 77
Sorocea affinis	15 \rightleftharpoons 19
Pouteria reticulata	30 \rightleftharpoons 48
Beilschmiedia towarensis	21 \rightleftharpoons 28
Cordia lasiocalyx	28 \rightleftharpoons 42
Pterocarpus hayesii	32 \rightleftharpoons 46
Bactris major	48 \rightleftharpoons 86
Ocotea whitei	44 \rightleftharpoons 81
Tabernaemontana arborea	38 \rightleftharpoons 29
Cassipourea elliptica	61 \rightleftharpoons 41
Simarouba amara	41 \rightleftharpoons 31
Chamguava schippii	127 \rightleftharpoons 65
Desmopsis panamensis	4 \rightleftharpoons 3
Protium stevensonii	16 \rightleftharpoons 9
Eugenia galalonensis	46 \rightleftharpoons 16
Alseis blackiana	6 \rightleftharpoons 5
Cupania seemannii	39 \rightleftharpoons 17
Protium panamense	19 \rightleftharpoons 12
Calophyllum longifolium	65 \rightleftharpoons 22
Protium tenuifolium	20 \rightleftharpoons 13
Swartzia simplex	10 \rightleftharpoons 8
Coussarea curvigemma	31 \rightleftharpoons 18
Garcinia recondita	13 \rightleftharpoons 10
Xylopia macrantha	54 \rightleftharpoons 25
Virola sebifera	22 \rightleftharpoons 40
Palicourea guianensis	93 \rightleftharpoons 33
Cecropia insignis	83 \rightleftharpoons 35
Rinorea sylvatica	18 \rightleftharpoons 14
Inga acuminata	121 \rightleftharpoons 45
Anaxagorea panamensis	78 \rightleftharpoons 43
Acalypha diversifolia	26 \rightleftharpoons 21
Tabernaemontana arborea	38 \rightleftharpoons 29
Cassipourea elliptica	61 \rightleftharpoons 41
Simarouba amara	41 \rightleftharpoons 31
Chamguava schippii	127 \rightleftharpoons 65

Balances:
 51.5% total individuals 48.5%
 95.6% all species 92.5%
 7.8% exclusive species 4.7%

48.6%—51.4%

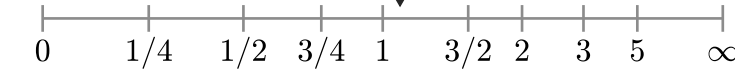
Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

Divergence contribution $\delta D_{13/12,\tau}^R$ (%)

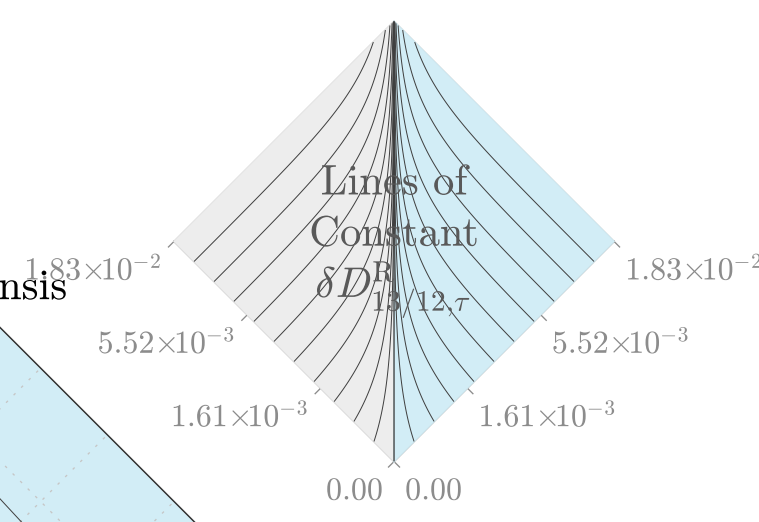
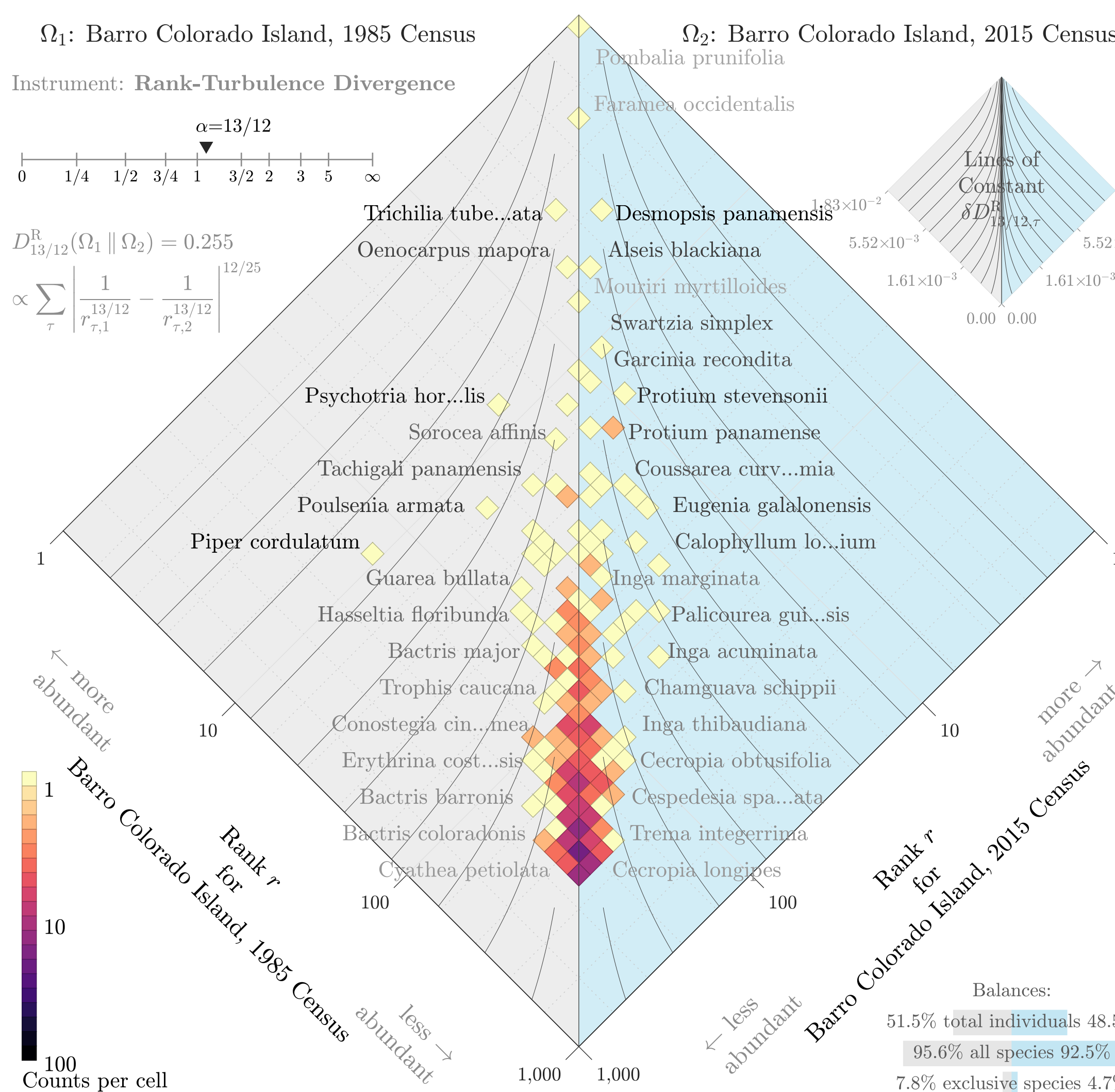
Instrument: Rank-Turbulence Divergence

$\alpha=13/12$



$$D_{13/12}^R(\Omega_1 \parallel \Omega_2) = 0.255$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{13/12}} - \frac{1}{r_{\tau,2}^{13/12}} \right|^{12/25}$$



Divergence contribution $\delta D_{13/12,\tau}^R$ (%)								
2	1.5	1	0.5	0	0.5	1	1.5	2
Piper cordulatum	9	⇒	138					
Trichilia tuberculata	3	⇒	4					
	4	⇒	3	Desmopsis panamensis				
Psychotria horizontalis	8	⇒	23					
Poulsenia armata	14	⇒	53					
	16	⇒	9	Protium stevensonii				
	46	⇒	16	Eugenia galalonensis				
Oenocarpus mapora	5	⇒	6					
	6	⇒	5	Alseis blackiana				
	39	⇒	17	Cupania seemannii				
	19	⇒	12	Protium panamense				
	65	⇒	22	Calophyllum longifolium				
	20	⇒	13	Protium tenuifolium				
	10	⇒	8	Swartzia simplex				
Tachigali panamensis	17	⇒	30					
	13	⇒	10	Garcinia recondita				
	31	⇒	18	Coussarea curvigemma				
	54	⇒	25	Xylopia macrantha				
Virola sebifera	22	⇒	40					
	93	⇒	33	Palicourea guianensis				
Capparidastrum frondosum	12	⇒	15					
	18	⇒	14	Rinorea sylvatica				
	83	⇒	35	Cecropia insignis				
	15	⇒	19	Sorocea affinis				
	34	⇒	70	Guarea bullata				
	29	⇒	50	Guatteria lucens				
	37	⇒	77	Hasseltia floribunda				
	121	⇒	45	Inga acuminata				
	30	⇒	48	Pouteria reticulata				
	21	⇒	28	Beilschmiedia tovarensis				
	28	⇒	42	Cordia lasiocalyx				
	78	⇒	43	Anaxagorea panamensis				
	44	⇒	81	Ocotea whitei				
	26	⇒	21	Acalypha diversifolia				
	32	⇒	46	Pterocarpus hayesii				
	48	⇒	86	Bactris major				
	38	⇒	29	Tabernaemontana arborea				
	41	⇒	31	Simarouba amara				
	61	⇒	41	Cassipourea elliptica				
	127	⇒	65	Changuava schippii				
				48.6%—51.4%				

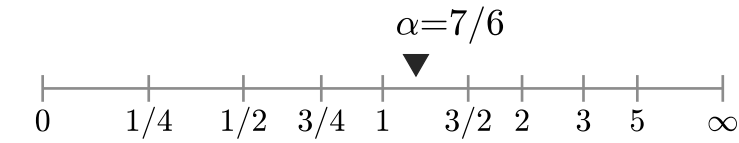
Balances:
 51.5% total individuals 48.5%
 95.6% all species 92.5%
 7.8% exclusive species 4.7%

Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

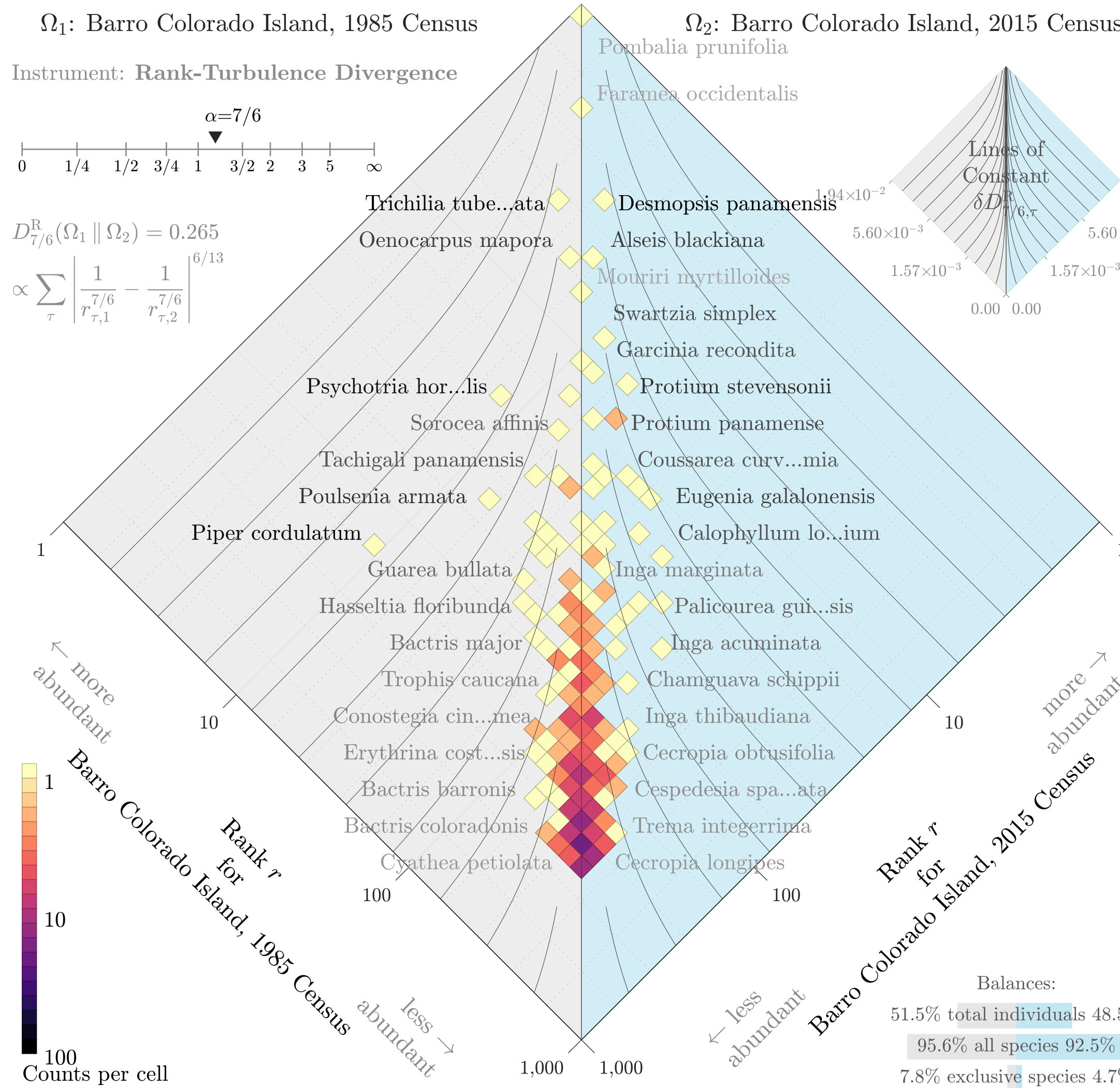
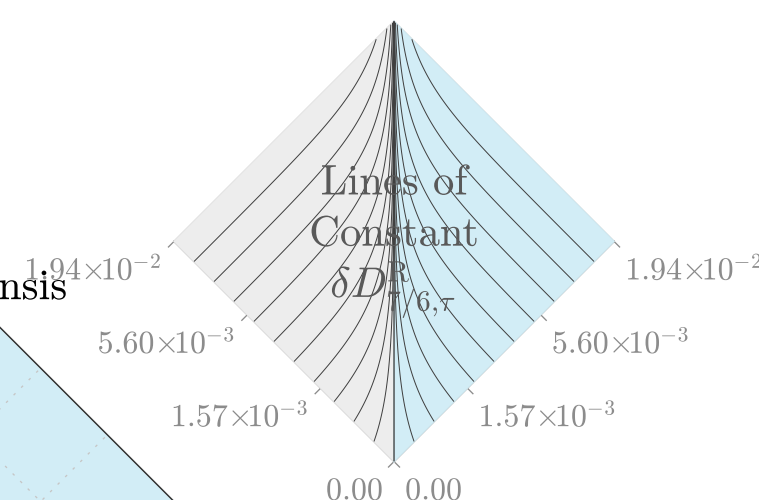
Instrument: Rank-Turbulence Divergence

Divergence contribution $\delta D_{7/6,\tau}^R$ (%)



$$D_{7/6}^R(\Omega_1 \parallel \Omega_2) = 0.265$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{7/6}} - \frac{1}{r_{\tau,2}^{7/6}} \right|^{6/13}$$



Divergence contribution $\delta D_{7/6,\tau}^R$ (%)	
2	1.5 1 0.5 0 0.5 1 1.5 2
Trichilia tuberculata	3 \rightleftharpoons 4
Desmopsis panamensis	4 \rightleftharpoons 3
Piper cordulatum	9 \rightleftharpoons 138
Psychotria horizontalis	8 \rightleftharpoons 23
Protium stevensonii	16 \rightleftharpoons 9
Poulsenia armata	14 \rightleftharpoons 53
Oenocarpus mapora	5 \rightleftharpoons 6
Alseis blackiana	6 \rightleftharpoons 5
Eugenia galalonensis	46 \rightleftharpoons 16
Protium panamense	19 \rightleftharpoons 12
Cupania seemannii	39 \rightleftharpoons 17
Swartzia simplex	10 \rightleftharpoons 8
Protium tenuifolium	20 \rightleftharpoons 13
Calophyllum longifolium	65 \rightleftharpoons 22
Garcinia recondita	13 \rightleftharpoons 10
Tachigali panamensis	17 \rightleftharpoons 30
Coussarea curvigemma	31 \rightleftharpoons 18
Xylopia macrantha	54 \rightleftharpoons 25
Virola sebifera	22 \rightleftharpoons 40
Capparidastrium frondosum	12 \rightleftharpoons 15
Palicourea guianensis	93 \rightleftharpoons 33
Rinorea sylvatica	18 \rightleftharpoons 14
Sorocea affinis	15 \rightleftharpoons 19
Cecropia insignis	83 \rightleftharpoons 35
Guarea bullata	34 \rightleftharpoons 70
Guatteria lucens	29 \rightleftharpoons 50
Hasseltia floribunda	37 \rightleftharpoons 77
Beilschmiedia tovaensis	21 \rightleftharpoons 28
Inga acuminata	121 \rightleftharpoons 45
Pouteria reticulata	30 \rightleftharpoons 48
Cordia lasiocalyx	28 \rightleftharpoons 42
Acalypha diversifolia	26 \rightleftharpoons 21
Anaxagorea panamensis	78 \rightleftharpoons 43
Ocotea whitei	44 \rightleftharpoons 81
Pterocarpus hayesii	32 \rightleftharpoons 46
Bactris major	48 \rightleftharpoons 86
Tabernaemontana arborea	38 \rightleftharpoons 29
Simarouba amara	41 \rightleftharpoons 31
Cassipourea elliptica	61 \rightleftharpoons 41
Quararibea asterolepis	23 \rightleftharpoons 20

Balances:
 51.5% total individuals 48.5%
 95.6% all species 92.5%
 7.8% exclusive species 4.7%

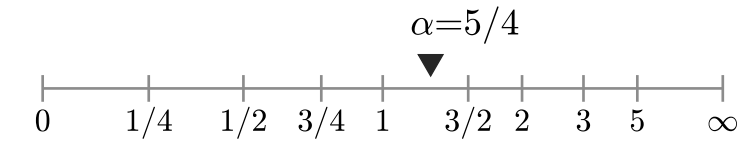
48.5%—51.5%

Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

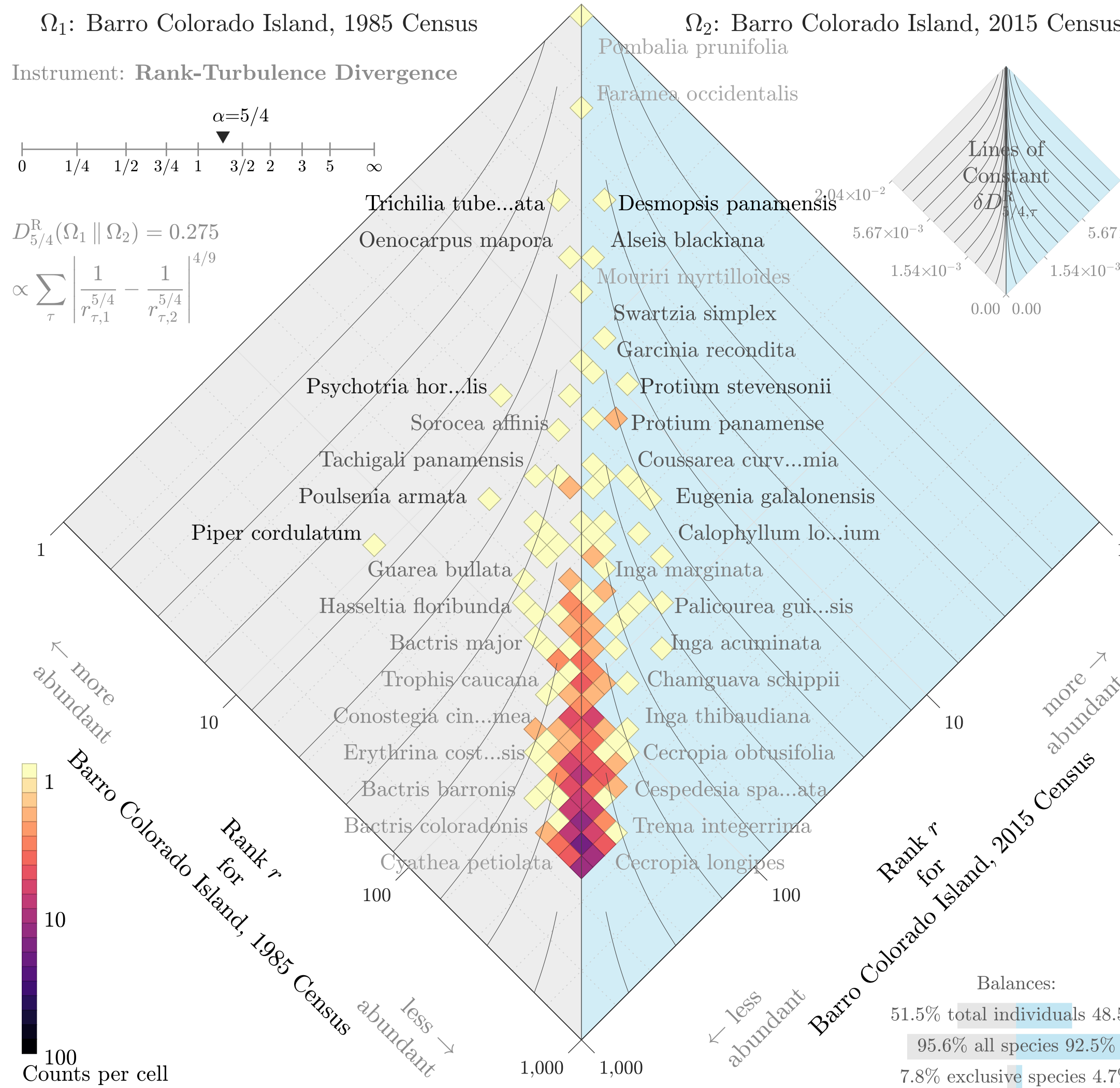
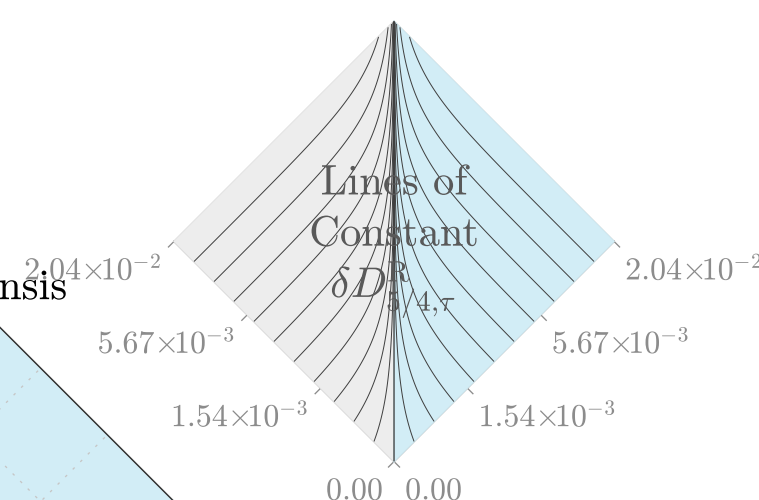
Instrument: Rank-Turbulence Divergence

Divergence contribution $\delta D_{5/4,\tau}^R$ (%)



$$D_{5/4}^R(\Omega_1 \parallel \Omega_2) = 0.275$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{5/4}} - \frac{1}{r_{\tau,2}^{5/4}} \right|^{4/9}$$



Species	1985 Rank	2015 Rank	Contribution (%)
Trichilia tuberculata	3	4	3.0
Desmopsis panamensis	4	3	3.0
Piper cordulatum	9	138	1.5
Psychotria horizontalis	8	23	1.5
Protium stevensonii	16	9	1.0
Poulsenia armata	14	53	0.5
Oenocarpus mapora	5	6	0.5
Alseis blackiana	6	5	0.5
Eugenia galalonensis	46	16	0.5
Protium panamense	19	12	0.5
Cupania seemannii	39	17	0.5
Swartzia simplex	10	8	0.5
Protium tenuifolium	20	13	0.5
Garcinia recondita	13	10	0.5
Calophyllum longifolium	65	22	0.5
Tachigali panamensis	17	30	0.5
Coussarea curvigemma	31	18	0.5
Xylopia macrantha	54	25	0.5
Virola sebifera	22	40	0.5
Capparidastrium frondosum	12	15	0.5
Rinorea sylvatica	18	14	0.5
Palicourea guianensis	93	33	0.5
Sorocea affinis	15	19	0.5
Cecropia insignis	83	35	0.5
Guatteria lucens	29	50	0.5
Guarea bullata	34	70	0.5
Beilschmiedia tovarensis	21	28	0.5
Hasseltia floribunda	37	77	0.5
Pouteria reticulata	30	48	0.5
Cordia lasiocalyx	28	42	0.5
Inga acuminata	121	45	0.5
Acalypha diversifolia	26	21	0.5
Anaxagorea panamensis	78	43	0.5
Ocotea whitei	44	81	0.5
Tabernaemontana arborea	38	29	0.5
Bactris major	48	86	0.5
Simarouba amara	41	31	0.5
Quararibea asterolepis	23	20	0.5
Cassipourea elliptica	61	41	0.5

Balances:

51.5% total individuals 48.5%

95.6% all species 92.5%

7.8% exclusive species 4.7%

48.5%—51.5%

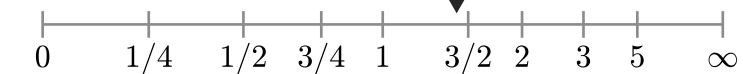
Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

Divergence contribution $\delta D_{17/12,\tau}^R$ (%)

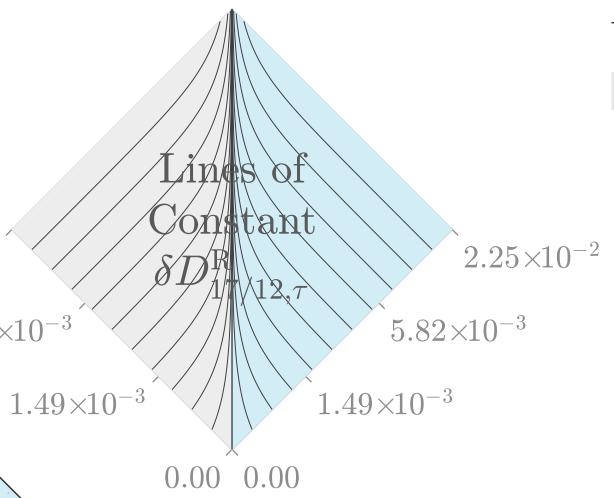
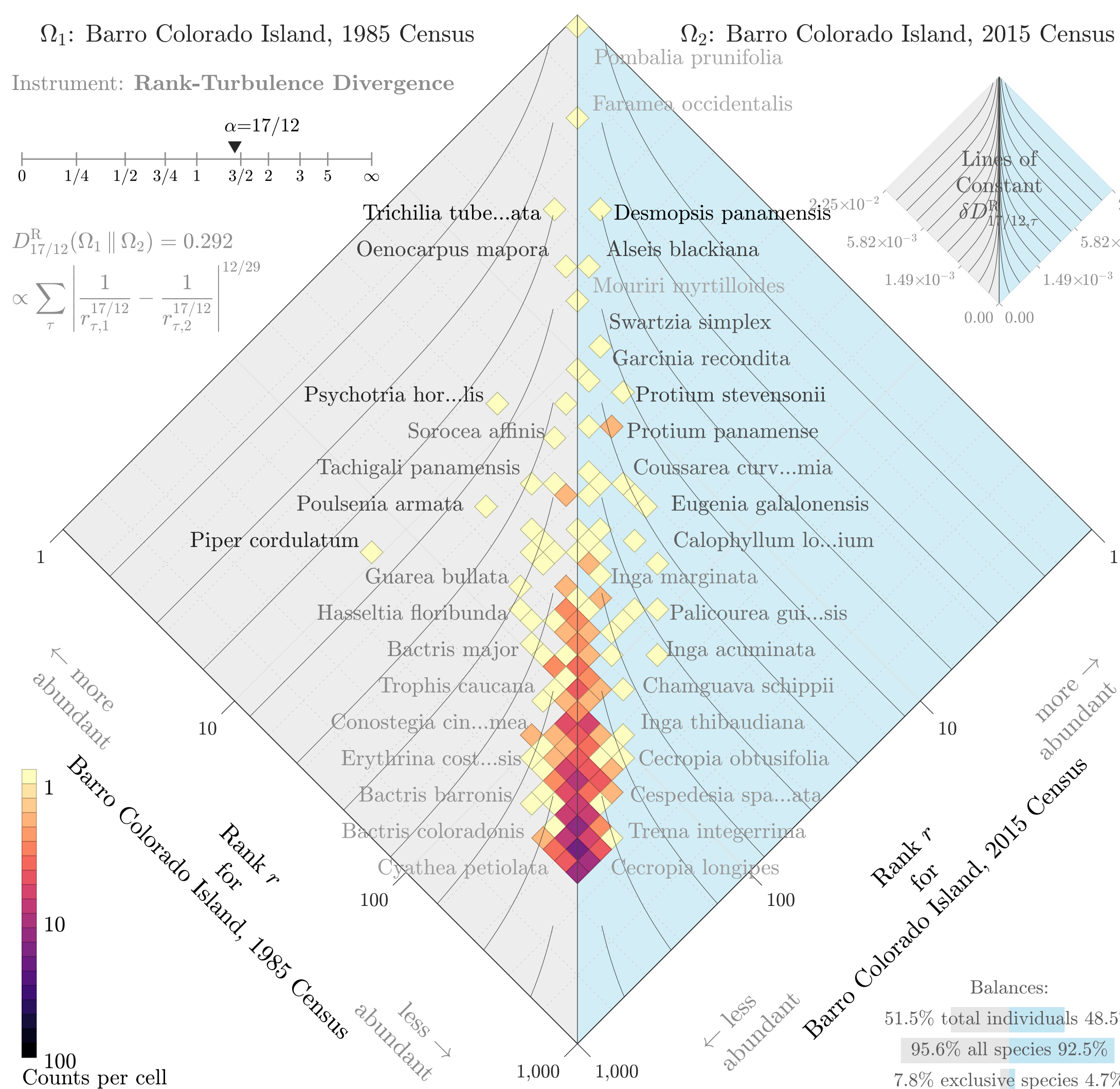
Instrument: Rank-Turbulence Divergence

$\alpha=17/12$



$$D_{17/12}^R(\Omega_1 \parallel \Omega_2) = 0.292$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{17/12}} - \frac{1}{r_{\tau,2}^{17/12}} \right|^{12/29}$$



Species	1985 Rank	2015 Rank	Divergence Contribution (%)
Trichilia tuberculata	3	4	48.4%
Desmopsis panamensis	4	3	51.6%
Piper cordulatum	9	138	48.4%
Psychotria horizontalis	8	23	48.4%
Oenocarpus mapora	16	9	48.4%
Protium stevensonii	6	5	48.4%
Alseis blackiana	6	5	48.4%
Poulsenia armata	14	53	48.4%
Eugenia galalonensis	46	16	48.4%
Swartzia simplex	10	8	48.4%
Protium panamense	19	12	48.4%
Cupania seemannii	39	17	48.4%
Protium tenuifolium	20	13	48.4%
Garcinia recondita	13	10	48.4%
Tachigali panamensis	17	30	48.4%
Calophyllum longifolium	65	22	48.4%
Coussarea curvigemma	31	18	48.4%
Capparidastrium frondosum	12	15	48.4%
Virola sebifera	22	40	48.4%
Rinorea sylvatica	18	14	48.4%
Xylopia macrantha	54	25	48.4%
Sorocea affinis	15	19	48.4%
Palicourea guianensis	93	33	48.4%
Cecropia insignis	83	35	48.4%
Guatteria lucens	29	50	48.4%
Beilschmiedia tovarensis	21	28	48.4%
Guarea bullata	34	70	48.4%
Pouteria reticulata	30	48	48.4%
Cordia lasiocalyx	28	42	48.4%
Hasseltia floribunda	37	77	48.4%
Acalypha diversifolia	26	21	48.4%
Inga acuminata	121	45	48.4%
Anaxagorea panamensis	78	43	48.4%
Ocotea whitei	44	81	48.4%
Tabernaemontana arborea	38	29	48.4%
Quararibea asterolepis	23	20	48.4%
Simarouba amara	41	31	48.4%
Bactris major	48	86	48.4%
Cassipourea elliptica	61	41	48.4%

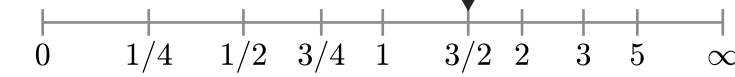
Balances:
 51.5% total individuals 48.5%
 95.6% all species 92.5%
 7.8% exclusive species 4.7%

Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

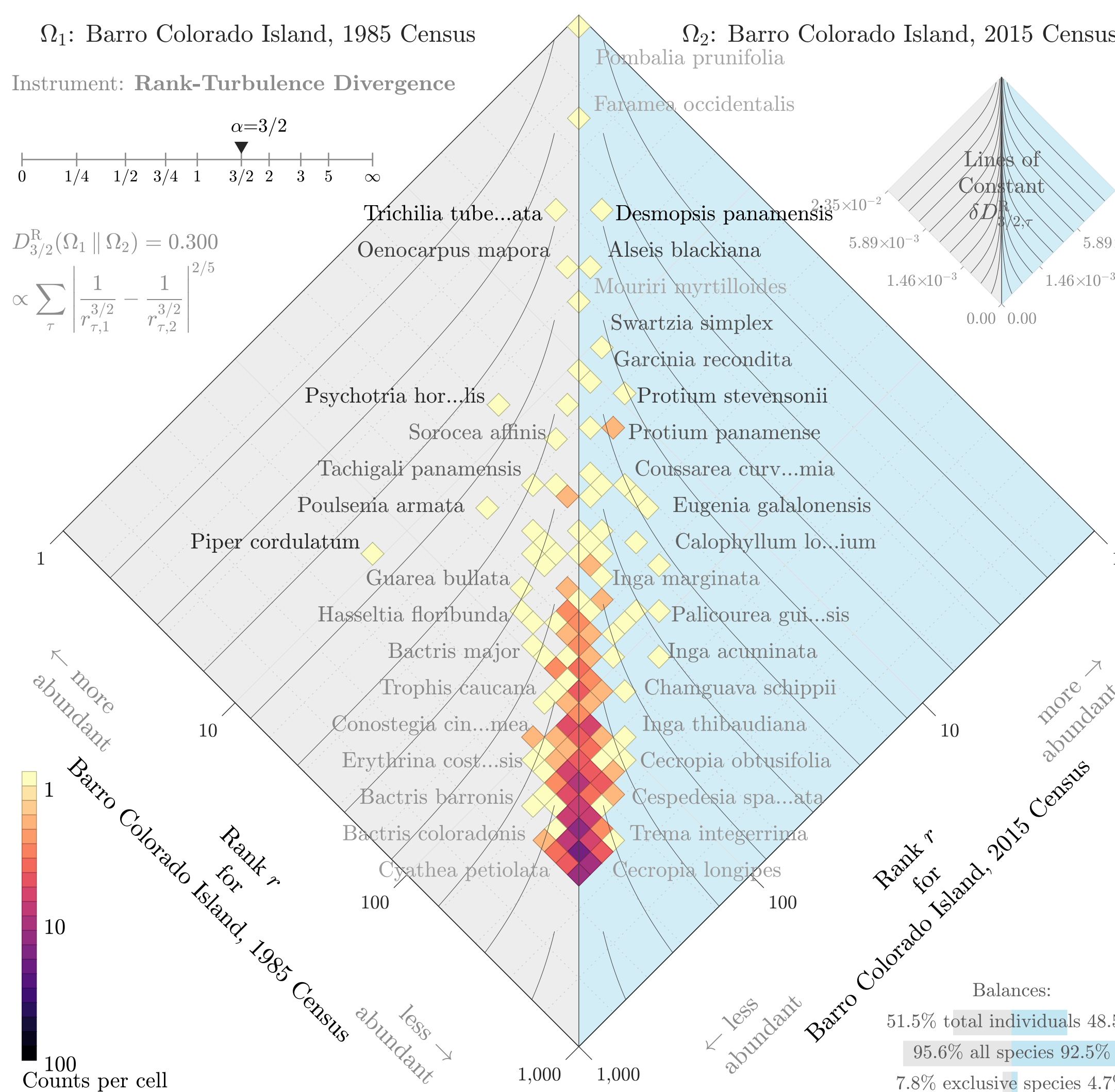
Instrument: Rank-Turbulence Divergence

$\alpha=3/2$



$$D_{3/2}^R(\Omega_1 \parallel \Omega_2) = 0.300$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{3/2}} - \frac{1}{r_{\tau,2}^{3/2}} \right|^{2/5}$$



Divergence contribution $\delta D_{3/2,\tau}^R$ (%)

	2	1	0	1	2
Trichilia tuberculata	3	4			
		4	3		
Piper cordulatum	9	138			
Psychotria horizontalis	8	23			
	16	9			
Oenocarpus mapora	5	6			
	6	5			
Poulsenia armata	14	53			
	10	8			
	46	16			
	19	12			
	13	10			
	39	17			
	20	13			
Tachigali panamensis	17	30			
	65	22			
	31	18			
Capparidastrium frondosum	12	15			
	18	14			
Virola sebifera	22	40			
	54	25			
Sorocea affinis	15	19			
	93	33			
Beilschmiedia tovarensis	21	28			
Guatteria lucens	29	50			
	83	35			
Guarea bullata	34	70			
Pouteria reticulata	30	48			
Cordia lasiocalyx	28	42			
Hasseltia floribunda	37	77			
	26	21			
	121	45			
Pterocarpus hayesii	32	46			
	38	29			
	23	20			
	78	43			
Ocotea whitei	44	81			
	41	31			
Bactris major	48	86			
	61	41			
			48.4%—51.6%		

Balances:
 51.5% total individuals 48.5%
 95.6% all species 92.5%
 7.8% exclusive species 4.7%

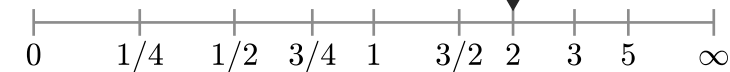
Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

Divergence contribution $\delta D_{2,\tau}^R$ (%)

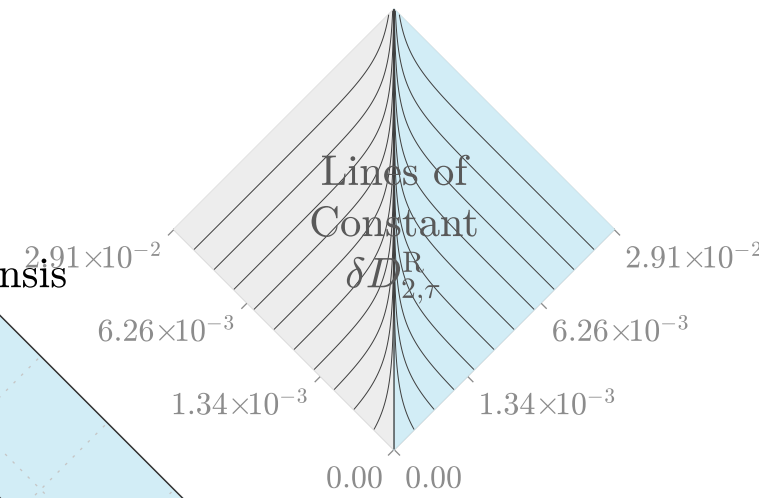
Instrument: Rank-Turbulence Divergence

$\alpha=2$



$$D_2^R(\Omega_1 \parallel \Omega_2) = 0.339$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^2} - \frac{1}{r_{\tau,2}^2} \right|^{1/3}$$

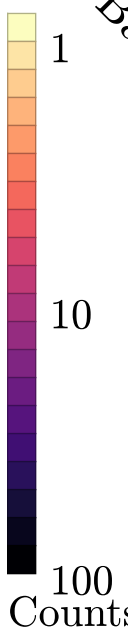


Species	1985 Rank	2015 Rank	Divergence Contribution (%)
Trichilia tuberculata	3	4	3
Desmopsis panamensis	4	3	2
Psychotria horizontalis	8	23	1
Piper cordulatum	9	138	1
Oenocarpus mapora	5	6	1
Alseis blackiana	6	5	1
Protium stevensonii	16	9	1
Swartzia simplex	10	8	1
Poulsenia armata	14	53	1
Protium panamense	19	12	1
Garcinia recondita	13	10	1
Eugenia galalonensis	46	16	1
Protium tenuifolium	20	13	1
Cupania seemannii	39	17	1
Capparidastrum frondosum	12	15	1
Tachigali panamensis	17	30	1
Coussarea curvigemma	31	18	1
Rinorea sylvatica	18	14	1
Calophyllum longifolium	65	22	1
Sorocea affinis	15	19	1
Virola sebifera	22	40	1
Xylopia macrantha	54	25	1
Beilschmiedia towarensis	21	28	1
Palicourea guianensis	93	33	1
Guatteria lucens	29	50	1
Acalypha diversifolia	26	21	1
Cordia lasiocalyx	28	42	1
Pouteria reticulata	30	48	1
Cecropia insignis	83	35	1
Guarea bullata	34	70	1
Quararibea asterolepis	23	20	1
Hasseltia floribunda	37	77	1
Pterocarpus hayesii	32	46	1
Tabernaemontana arborea	38	29	1
Simarouba amara	41	31	1
Inga acuminata	121	45	1
Anaxagorea panamensis	78	43	1
Guarea guidonia	27	24	1
Ocotea whitei	44	81	1
Cassipourea elliptica	61	41	1

← more abundant
Barro Colorado Island, 1985 Census
Rank r
Rank r for Barro Colorado Island, 2015 Census
← less abundant

more →
Barro Colorado Island, 2015 Census
Rank r
Rank r for Barro Colorado Island, 1985 Census
← less abundant

Balances:
51.5% total individuals 48.5%
95.6% all species 92.5%
7.8% exclusive species 4.7%



Counts per cell

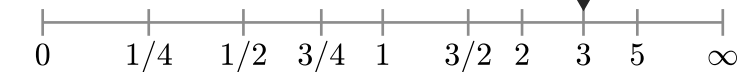
Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

Divergence contribution $\delta D_{3,\tau}^R$ (%)

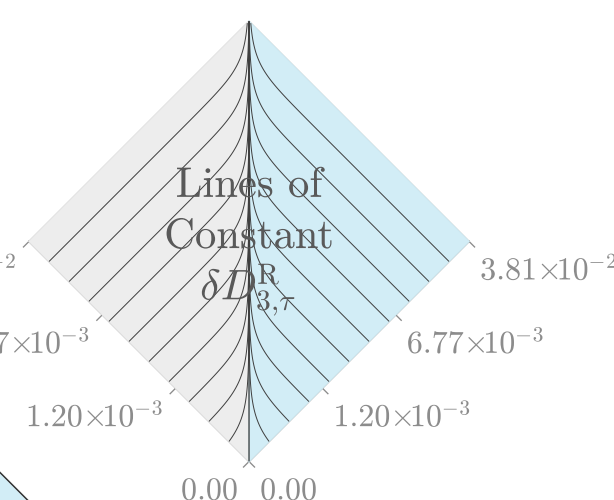
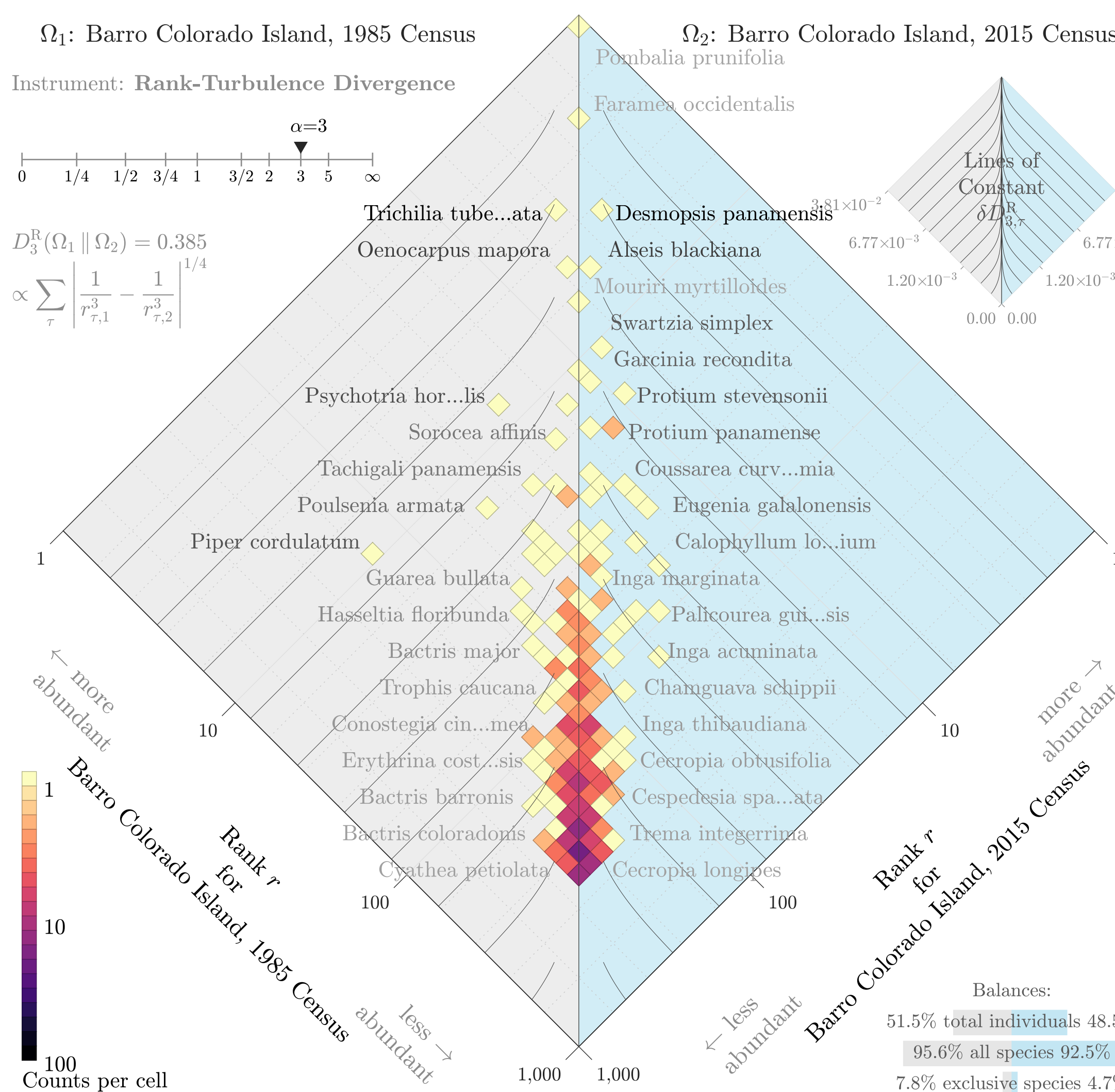
Instrument: Rank-Turbulence Divergence

$\alpha=3$



$$D_3^R(\Omega_1 \parallel \Omega_2) = 0.385$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^3} - \frac{1}{r_{\tau,2}^3} \right|^{1/4}$$



Species	1985 Rank	2015 Rank	Divergence Contribution (%)
Trichilia tuberculata	3	4	3.81
Desmopsis panamensis	4	3	6.77
Oenocarpus mapora	5	6	1.20
Alseis blackiana	6	5	3.81
Psychotria horizontalis	8	23	6.77
Piper cordulatum	9	138	1.20
Protium stevensonii	16	9	3.81
Swartzia simplex	10	8	6.77
Garcinia recondita	13	10	1.20
Protium panamense	19	12	3.81
Protium panamense	14	53	6.77
Protium tenuifolium	20	13	1.20
Capparidastrum frondosum	12	15	3.81
Eugenia galalonensis	46	16	6.77
Rinorea sylvatica	18	14	1.20
Cupania seemannii	39	17	3.81
Tachigali panamensis	17	30	6.77
Sorocea affinis	15	19	1.20
Coussarea curvigemma	31	18	3.81
Calophyllum longifolium	65	22	6.77
Virola sebifera	22	40	1.20
Beilschmiedia tovarensis	21	28	3.81
Xylopia macrantha	54	25	6.77
Acalypha diversifolia	26	21	1.20
Quararibea asterolepis	23	20	3.81
Guatteria lucens	29	50	6.77
Cordia lasiocalyx	28	42	1.20
Pouteria reticulata	30	48	3.81
Palicourea guianensis	93	33	6.77
Tabernaemontana arborea	38	29	1.20
Cecropia insignis	34	70	3.81
Guarea guidonia	83	35	6.77
Guarea guidonia	27	24	1.20
Simarouba amara	32	46	3.81
Simarouba amara	41	31	6.77
Hasseltia floribunda	37	77	1.20
Drypetes standleyi	24	26	3.81
Eugenia oerstediana	25	27	6.77
Anaxagorea panamensis	78	43	1.20
Inga acuminata	121	45	3.81

Balances:
 51.5% total individuals 48.5%
 95.6% all species 92.5%
 7.8% exclusive species 4.7%

48.2%—51.8%

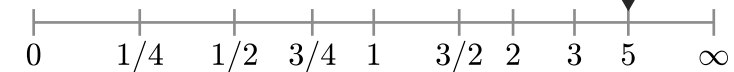
Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

Divergence contribution $\delta D_{5,\tau}^R(\%)$

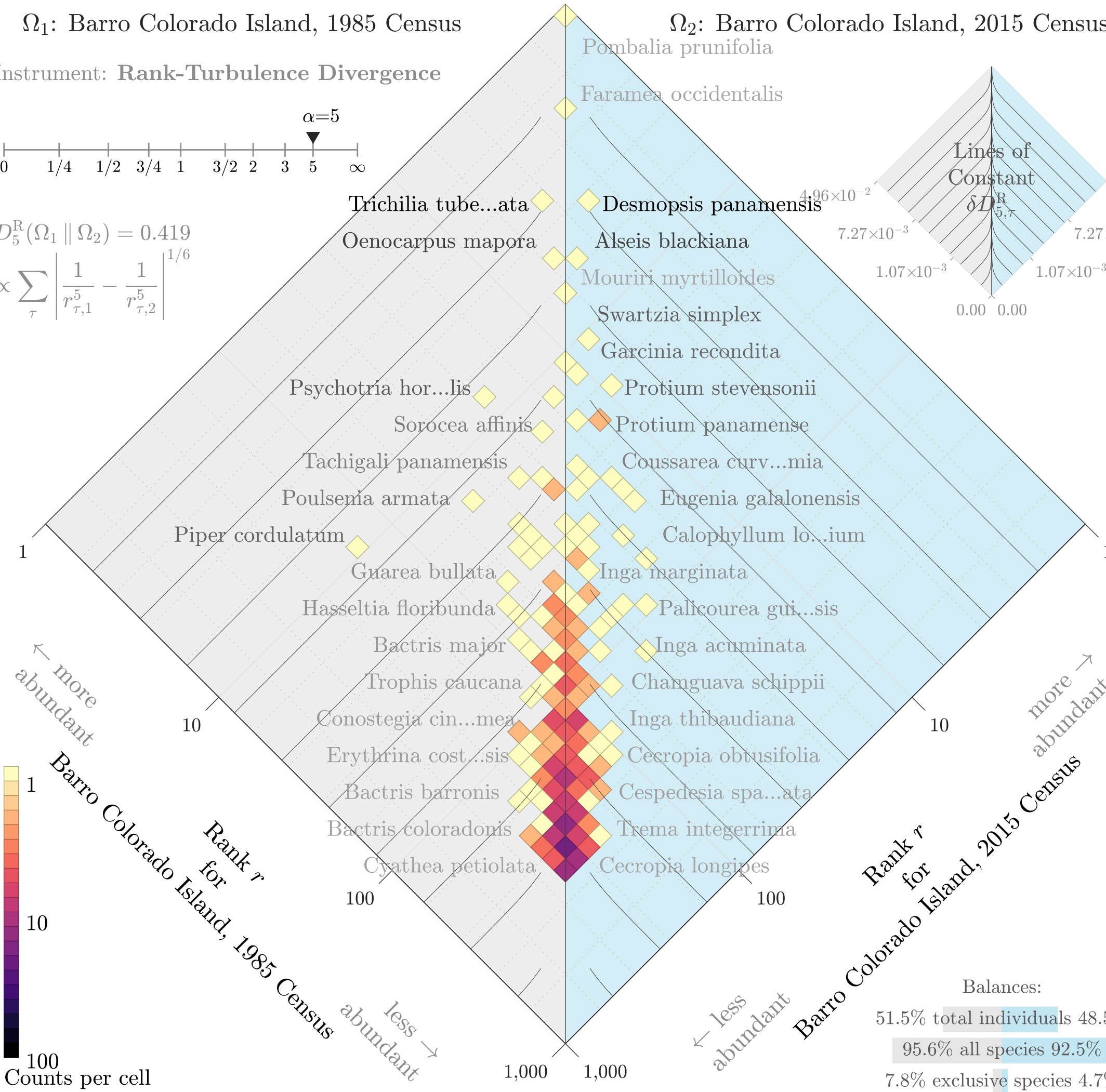
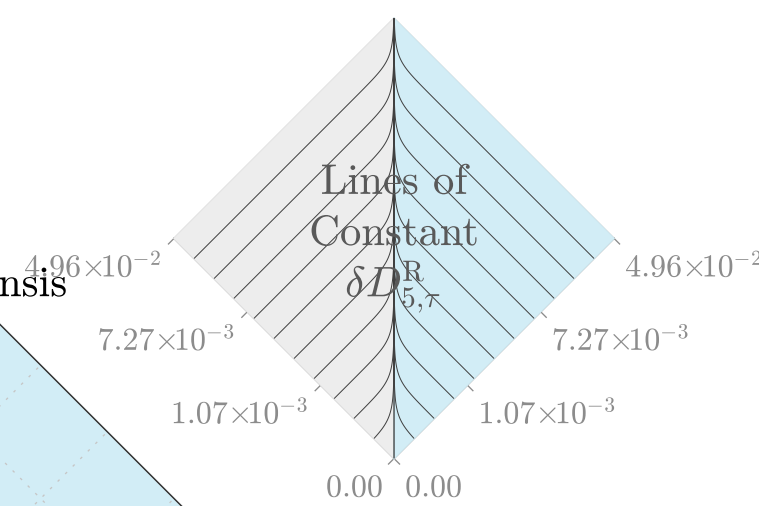
Instrument: Rank-Turbulence Divergence

$\alpha=5$



$$D_5^R(\Omega_1 \parallel \Omega_2) = 0.419$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^5} - \frac{1}{r_{\tau,2}^5} \right|^{1/6}$$



Trichilia tuberculata	3 \rightleftharpoons 4
Oenocarpus mapora	5 \rightleftharpoons 6
Psychotria horizontalis	8 \rightleftharpoons 23
Piper cordulatum	9 \rightleftharpoons 138
Capparidastrum frondosum	12 \rightleftharpoons 15
Poulsenia armata	14 \rightleftharpoons 53
Sorocea affinis	15 \rightleftharpoons 19
Tachigali panamensis	17 \rightleftharpoons 30
Beilschmiedia towarensis	21 \rightleftharpoons 28
Virola sebifera	22 \rightleftharpoons 40
Eugenia oerstediana	25 \rightleftharpoons 27
Pterocarpus hayesii	32 \rightleftharpoons 46
Hasseltia floribunda	37 \rightleftharpoons 77

Balances:
 51.5% total individuals 48.5%
 95.6% all species 92.5%
 7.8% exclusive species 4.7%

48.1%—51.9%

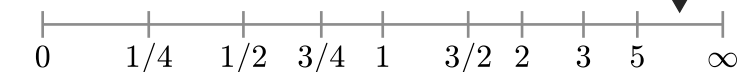
Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

Divergence contribution $\delta D_{10,\tau}^R$ (%)

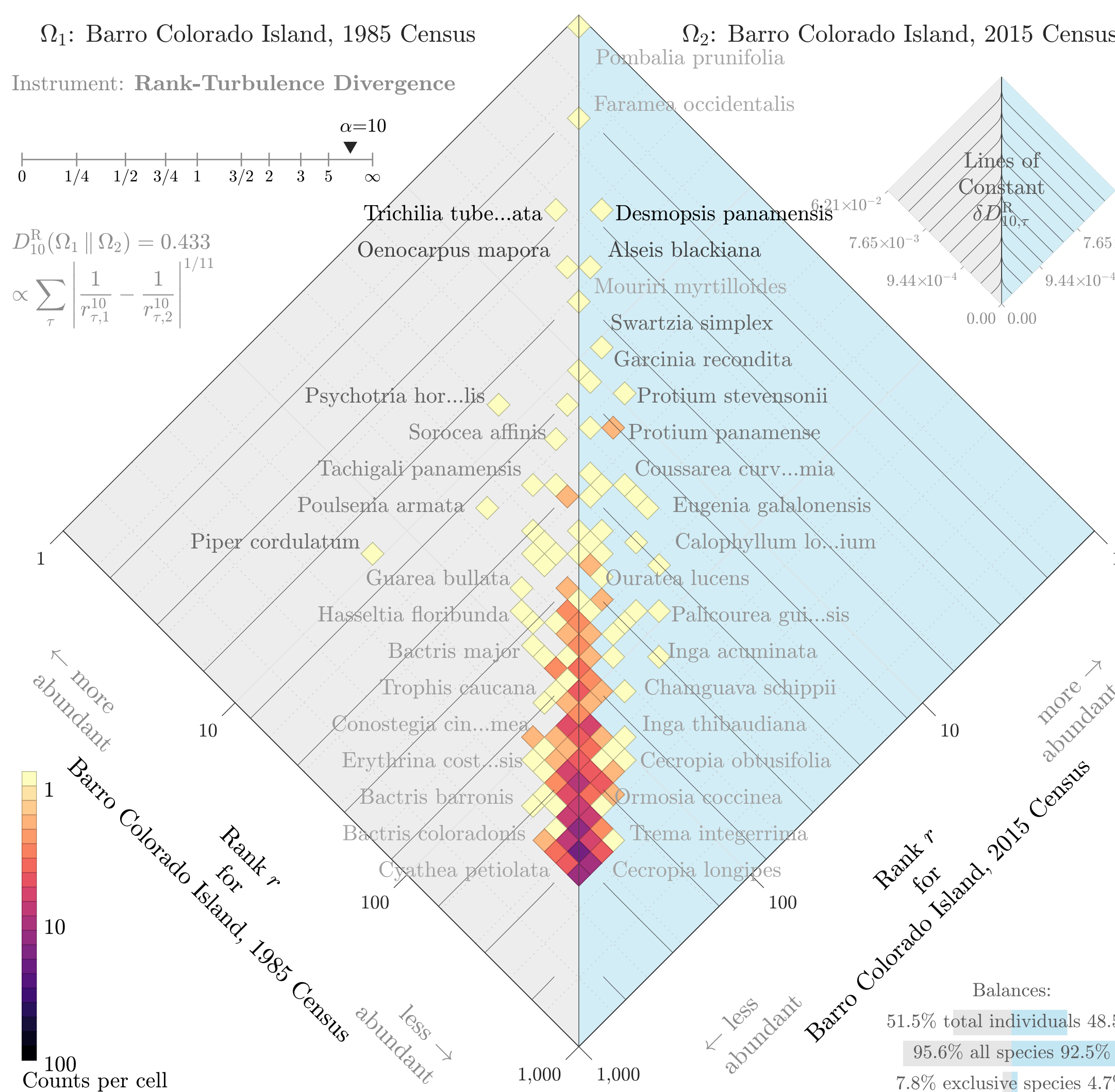
Instrument: Rank-Turbulence Divergence

$\alpha=10$



$$D_{10}^R(\Omega_1 \parallel \Omega_2) = 0.433$$

$$\propto \sum_{\tau} \left| \frac{1}{r_{\tau,1}^{10}} - \frac{1}{r_{\tau,2}^{10}} \right|^{1/11}$$



Species	1985 Rank	2015 Rank
Trichilia tuberculata	3	4
Desmopsis panamensis	4	3
Oenocarpus mapora	5	6
Alseis blackiana	6	5
Psychotria horizontalis	8	23
Swartzia simplex	10	8
Piper cordulatum	9	138
Protium stevensonii	16	9
Garcinia recondita	13	10
Protium panamense	19	12
Capparidastrum frondosum	12	15
Protium tenuifolium	20	13
Poulsenia armata	14	53
Rinorea sylvatica	18	14
Sorocea affinis	15	19
Eugenia galalonensis	46	16
Cupania seemannii	39	17
Tachigali panamensis	17	30
Coussarea curvigemma	31	18
Quararibea asterolepis	23	20
Beilschmiedia towarensis	21	28
Acalypha diversifolia	26	21
Calophyllum longifolium	65	22
Virola sebifera	22	40
Guarea guidonia	27	24
Xylopia macrantha	54	25
Drypetes standleyi	24	26
Eugenia oerstediana	25	27
Cordia lasiocalyx	28	42
Guatteria lucens	29	50
Tabernaemontana arborea	38	29
Pouteria reticulata	30	48
Simarouba amara	41	31
Pterocarpus hayesii	32	46
Palicourea guianensis	93	33
Prioria copaifera	35	32
Cecropia insignis	83	35
Hasseltia floribunda	37	77
Picramnia latifolia	40	36

Balances:
 51.5% total individuals 48.5%
 95.6% all species 92.5%
 7.8% exclusive species 4.7%

48.0%—52.0%

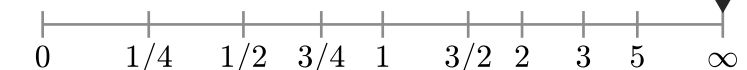
Ω_1 : Barro Colorado Island, 1985 Census

Ω_2 : Barro Colorado Island, 2015 Census

Divergence contribution $\delta D_{\infty, \tau}^R$ (%)

Instrument: Rank-Turbulence Divergence

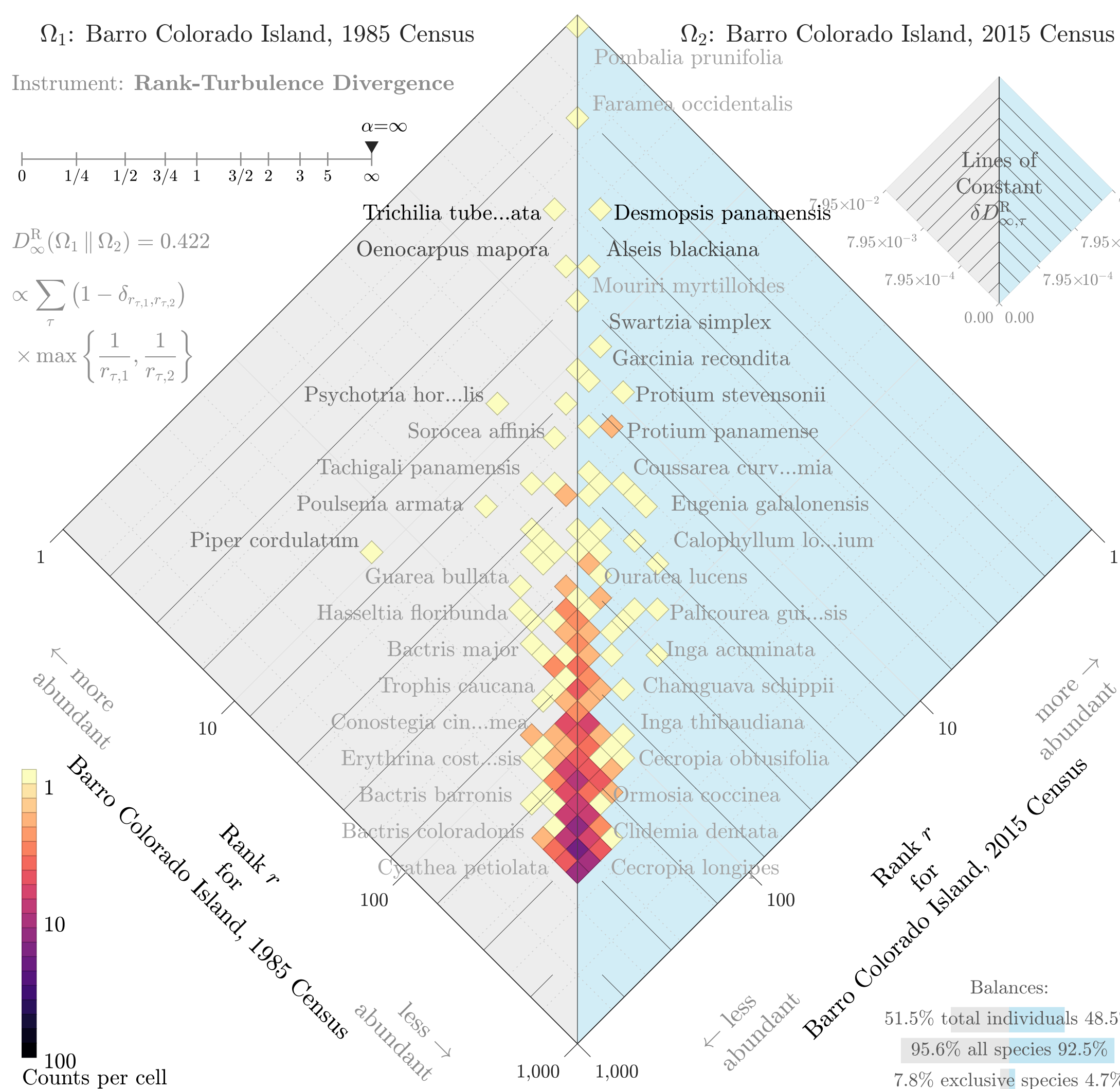
$\alpha = \infty$



$$D_{\infty}^R(\Omega_1 \parallel \Omega_2) = 0.422$$

$$\propto \sum_{\tau} (1 - \delta_{r_{\tau,1}, r_{\tau,2}})$$

$$\times \max \left\{ \frac{1}{r_{\tau,1}}, \frac{1}{r_{\tau,2}} \right\}$$



Species	1985 Rank	2015 Rank	Divergence Contribution (%)
Trichilia tuberculata	3	4	47.9%
Desmopsis panamensis	4	3	52.1%
Oenocarpus mapora	5	6	47.9%
Alseis blackiana	6	5	52.1%
Psychotria horizontalis	8	23	47.9%
Swartzia simplex	10	8	52.1%
Piper cordulatum	9	138	47.9%
Protium stevensonii	16	9	52.1%
Garcinia recondita	13	10	47.9%
Capparidastrium frondosum	12	15	47.9%
Protium panamense	19	12	52.1%
Protium tenuifolium	20	13	47.9%
Poulsenia armata	14	53	47.9%
Rinorea sylvatica	18	14	47.9%
Eugenia galalonensis	46	16	52.1%
Tachigali panamensis	17	30	47.9%
Cupania seemannii	39	17	52.1%
Coussarea curvigemma	31	18	47.9%
Quararibea asterolepis	23	20	47.9%
Beilschmiedia tovarensis	21	28	47.9%
Acalypha diversifolia	26	21	47.9%
Calophyllum longifolium	65	22	52.1%
Drypetes standleyi	24	26	47.9%
Guarea guidonia	27	24	47.9%
Xylopia macrantha	54	25	52.1%
Cordia lasiocalyx	28	42	47.9%
Tabernaemontana arborea	38	29	47.9%
Simarouba amara	41	31	47.9%
Prioria copaifera	35	32	47.9%
Palicourea guianensis	93	33	52.1%
Cecropia insignis	83	35	47.9%

Balances:
 51.5% total individuals 48.5%
 95.6% all species 92.5%
 7.8% exclusive species 4.7%