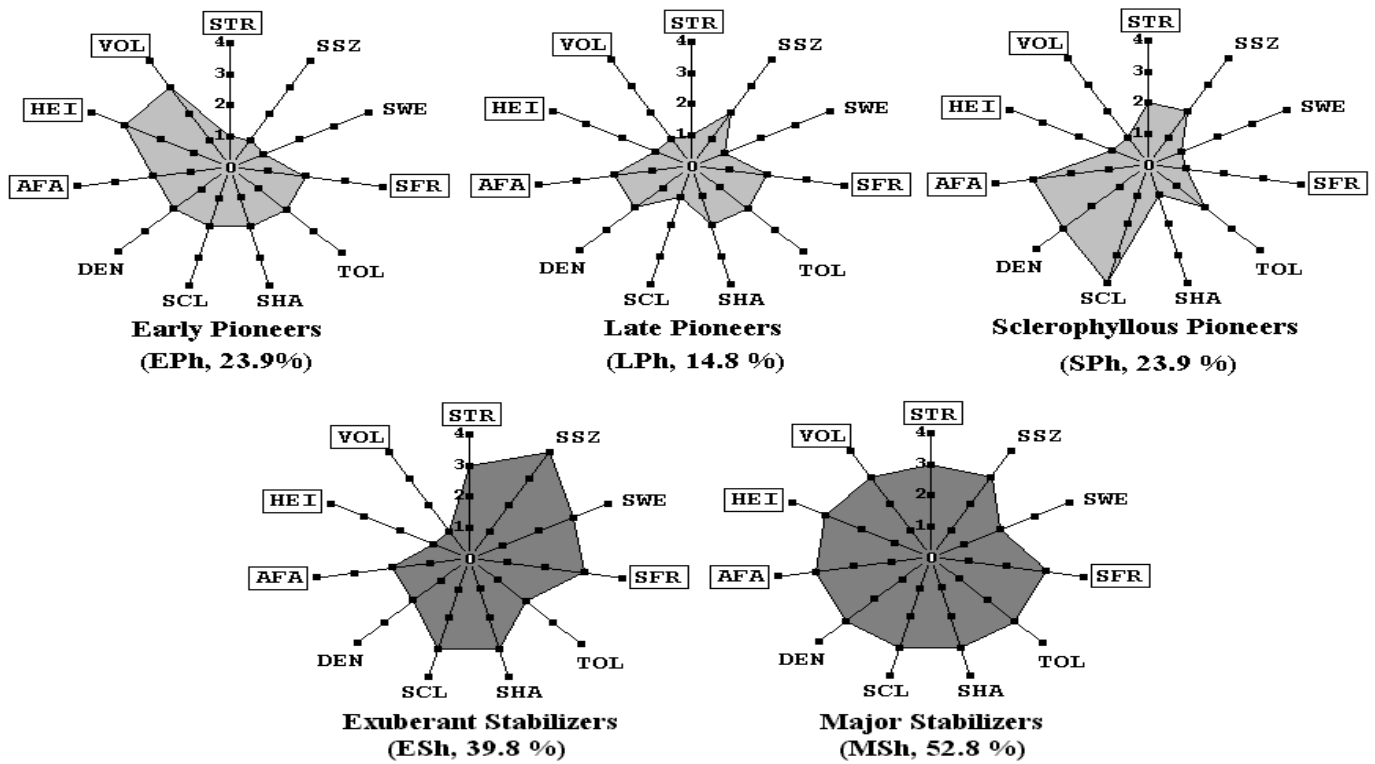
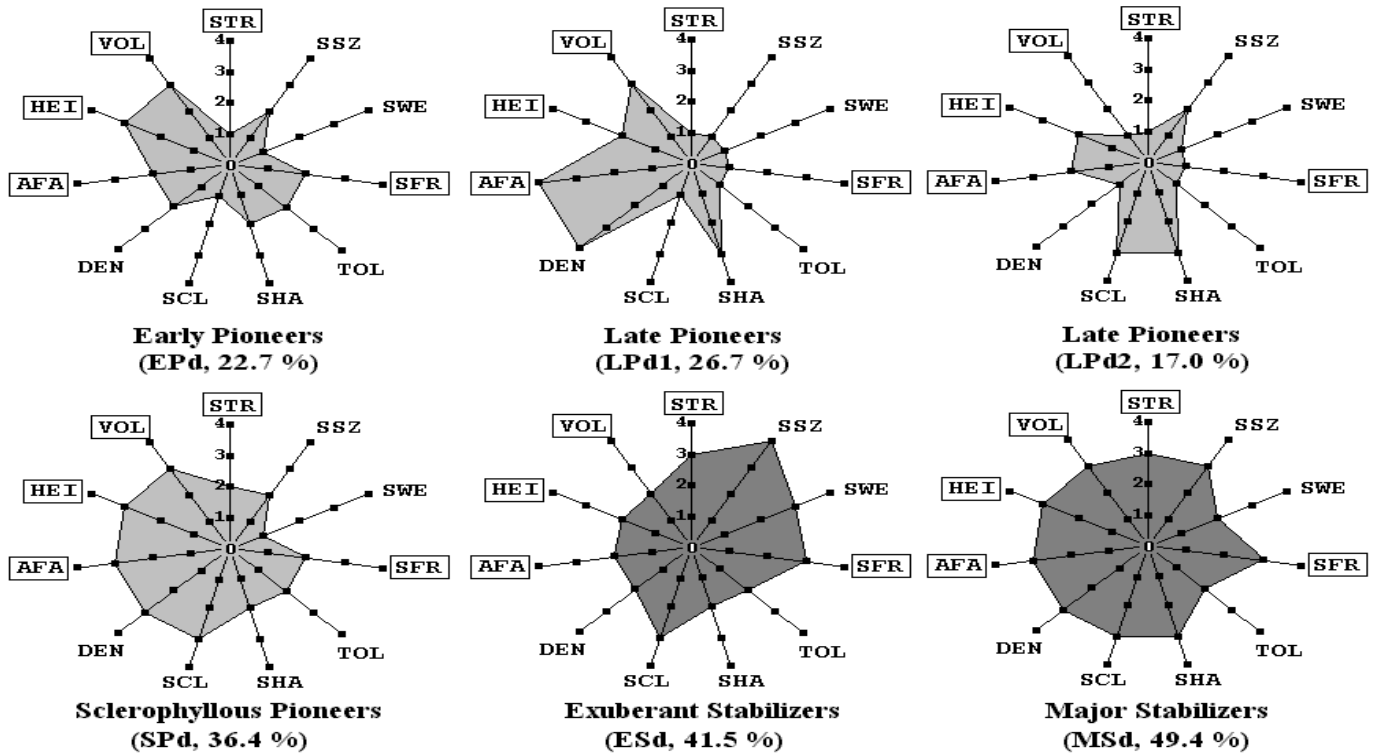


**APPENDIX V**

**Humid Forest Ecosystems, Order II Strategies**

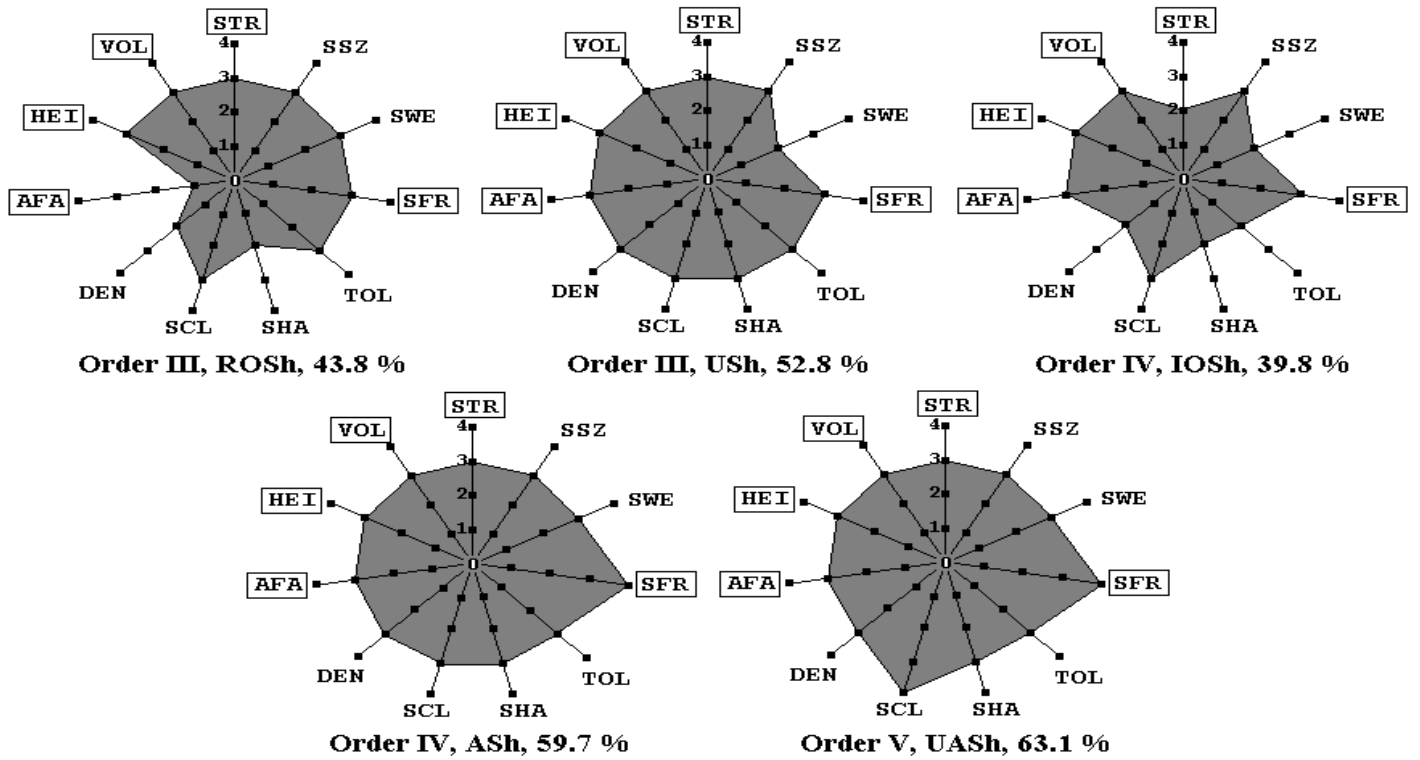


**Dry and/or Saline Ecosystems, Order II Strategies**

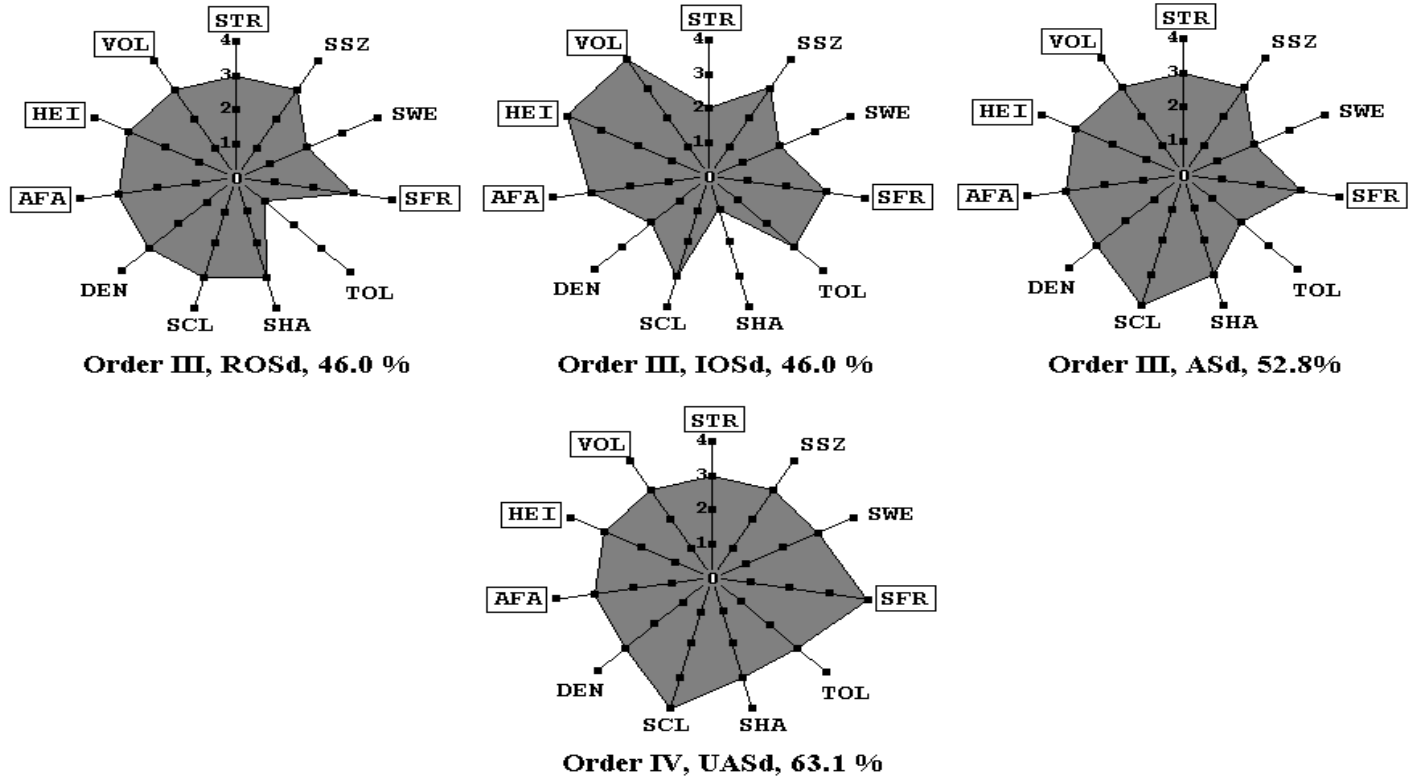


**Figure V-1.** Order II successional strategies for humid forest (HFE) and dry and/or saline ecosystems (DSE).

**Humid Forest Ecosystems: Grouping Strategies Belonging to Intermediate Orders**



**Dry and/or Saline Ecosystems: Grouping Strategies Belonging to Intermediate Orders**



**Figure V-2.** Intermediate strategies Orders polygrams for humid forest (above) and dry and/or saline ecosystems (below).

Humid Forest Ecosystems, Order VI Strategies

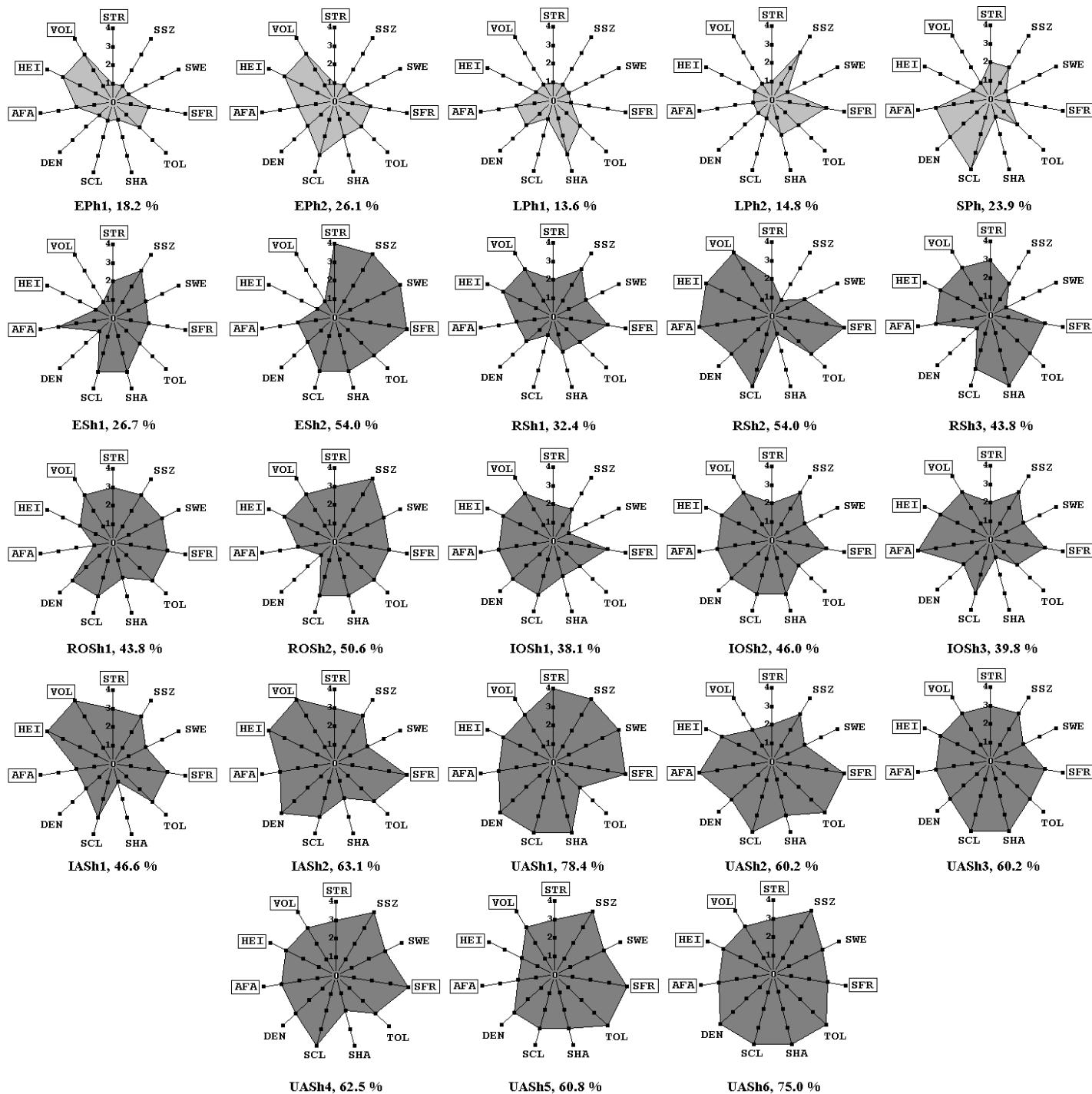


Figure V-3. Twenty three final strategies (Order VI) polygrams for humid forest ecosystems.

Dry and/or Saline Ecosystems, Order V Strategies

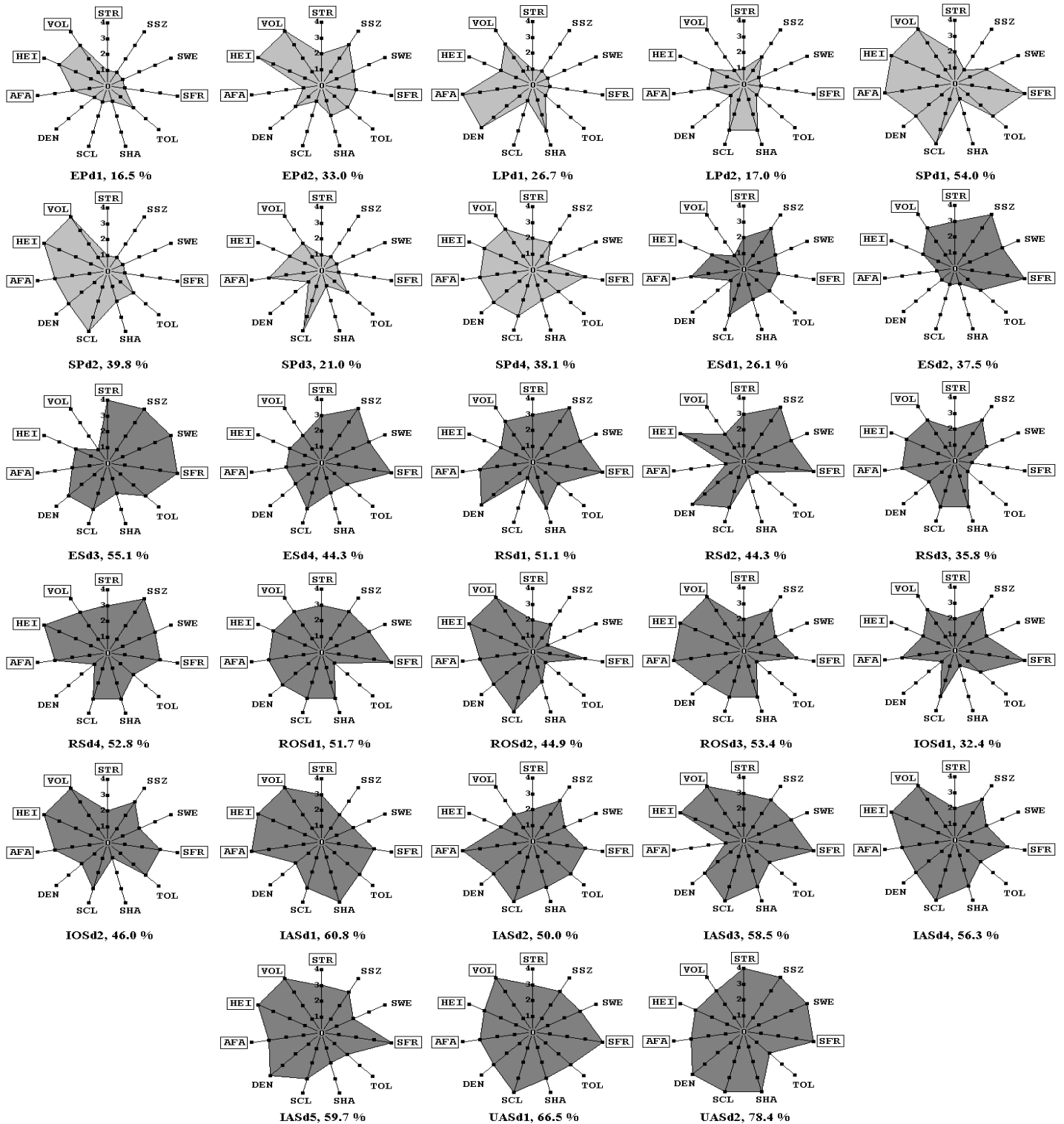


Figure V-4. Twenty eight final strategies (Order V) polygrams for dry and/or saline ecosystems.

## APPENDIX VI

**Appendix VI-A.** Estimation of ceno-successional index (CSI) for several hypothetical or real forest variants belonging to the assembly of humid forest ecosystems (HFE).

Note: *Yagrupal Joven*, *Yagrupal*, *Majagual*, *Los Jagüeyes*, *Helechal*, *El Ébano*, *El Mulo Sur*, *Macurijal*, *Macagual* and *Bosque Joven* belong to the HFE assembly and can be considered as Tropical Humid Forests functioning as more humid variants within a region of mostly Tropical Dry Forests. On the other hand, *Cima Macagual*, *El Salón Sur* and *El Rubí Sur*, belonging also to the HFE assembly, might be considered as a functional frontier between HFE and DSE (Dry and/or Saline Ecosystems). However, these last three plots function rather as Tropical Dry Forests. At the Reserve of Biosphere *Sierra del Rosario*, annual rainfall varies between 2014 and 2300 mm. On the other hand, the plot *Cima Macagual* is relatively drier than the remaining plots because it grows on a summit (convex topography) while the plots *El Salón Sur* and *El Rubí Sur* grow on topographies directly exposed to the South, on a hill and in a wide open valley, respectively. Note that in these cases successional numbers (SN) vary between 1 and 23, according to the Order VI strategies demonstrated in Figure 1.

*Yagrupal Joven* (hypothetical example)

FOREST TREE SPECIES	Phytomass (m <sup>3</sup> )	SP	SN	SP x SN	CSI
<i>Cecropia schreberiana</i>	12.69	93.55	1	93.55	
<i>Ficus subscabrida</i>	0.52	3.83	3	11.50	
<i>Dendropanax arboreus</i>	0.02	0.18	8	1.43	1.26
<i>Guarea guidonia</i>	0.33	2.43	8	19.46	
	13.56	100.00		125.95	

Note: The forest plot (trees less than 10 m high) is at 400 m a.s.l. on a lightly concave slope with exposition to North. *Cecropia schreberiana* was a super-dominant species during 1984 while saplings or small trees represented other tree species. Root mats do not occur on the soil. The plot is humid all year long.

*Yagrupal* (hypothetical example)

FOREST TREE SPECIES	Phytomass (m <sup>3</sup> )	SP	SN	SP x SN	CSI
<i>Cecropia schreberiana</i>	12.69	85.69	1	85.69	
<i>Ficus subscabrida</i>	0.52	3.51	3	10.53	
<i>Dendropanax arboreus</i>	0.02	0.16	8	1.31	
<i>Guarea guidonia</i>	0.33	2.23	8	17.83	2.43
<i>Trophis racemosa</i>	0.52	3.51	11	38.62	
<i>Matayba apetala</i>	0.47	3.17	16	50.78	
<i>Pseudolmedia spuria</i>	0.26	1.76	22	38.62	
	14.81	100.00		243.38	

Note: The forest plot (trees less than 15 m high) is at 360 m a.s.l. on a concave slope along an intermittent creek with W-NW exposition. *Cecropia schreberiana* was a super-dominant species during 1984. Root mats do not occur on the soil. The plot is highly humid all year long.

*Majagual* (hypothetical example)

FOREST TREE SPECIES	Phytomass (m <sup>3</sup> )	SP	SN	SP x SN	CSI
<i>Ficus subscabrida</i>	0.18	0.81	3	2.43	
<i>Talipariti elatum</i>	13.76	61.25	4	244.99	
<i>Sideroxylon foetidissimum</i>	0.07	0.31	7	2.18	
<i>Dendropanax arboreus</i>	2.65	11.79	8	94.34	
<i>Alchornea latifolia</i>	2.34	10.41	11	114.55	
<i>Trophis racemosa</i>	1.70	7.57	11	83.22	
<i>Matayba apetala</i>	1.09	4.85	16	77.61	
<i>Calophyllum antillanum</i>	0.30	1.35	21	28.37	6.84
<i>Nectandra coriacea</i>	0.10	0.44	21	9.33	
<i>Oxandra lanceolata</i>	0.01	0.01	21	0.10	
<i>Beilschmiedia pendula</i>	0.01	0.01	22	0.17	
<i>Pseudolmedia spuria</i>	0.27	1.20	22	26.43	
	22.47	100.00		683.72	

Note: The forest plot (trees less than 18 m high) is at 380 m a.s.l. along a flat to concave hill slope with W exposition. *Talipariti elatum* as a super-dominant species during 1984 after felling interrupted the successional natural process. Root mats do not occur on the soil. The plot is highly humid all year long.

*Macagual* (hypothetical example)

FOREST TREE SPECIES	Phytomass (m <sup>3</sup> )	SP	SN	SP x SN	CSI
<i>Ficus subscabrida</i>	1.18	3.00	3	9.01	
<i>Talipariti elatum</i>	0.56	1.42	4	5.70	
<i>Sideroxylon foetidissimum</i>	0.89	2.26	7	15.85	
<i>Dendropanax arboreus</i>	1.52	3.87	8	30.94	
<i>Alchornea latifolia</i>	1.56	3.97	11	43.66	
<i>Trophis racemosa</i>	3.69	9.39	11	103.28	
<i>Matayba apetala</i>	6.52	16.59	16	265.45	
<i>Calophyllum antillanum</i>	2.65	6.74	21	141.60	17.53
<i>Nectandra coriacea</i>	3.62	9.21	21	193.44	
<i>Oxandra lanceolata</i>	5.23	13.31	21	279.47	
<i>Beilschmiedia pendula</i>	2.52	6.41	22	141.07	
<i>Pseudolmedia spuria</i>	9.36	23.82	22	523.97	
	39.30	100.00		1753.44	

Note: The forest plot (trees less than 18 m high) is at 350 m a.s.l. along a convex hill slope with SE exposition. At present *Pseudolmedia spuria*, *Oxandra lanceolata* and *Matayba apetala* dominate the plot. Root mats on the soil surface are permanent along the year reaching about 10 cm thick or more. The plot is humid enough all year long but soil dries and deeply cracks during the drier season.

Los Jagüeyes (hypothetical example)

FOREST TREE SPECIES	Phytomass (m <sup>3</sup> )	SP	SN	SP x SN	CSI
<i>Tabebuia shaferi</i>	1.88	4.05	2	8.10	
<i>Ficus subscabrida</i>	26.53	56.99	3	170.97	
<i>Sideroxylon foetidissimum</i>	0.03	0.07	7	0.46	
<i>Dendropanax arboreus</i>	0.02	0.05	8	0.42	
<i>Guarea guidonia</i>	5.69	12.22	8	97.78	
<i>Trophis racemosa</i>	1.52	3.26	11	35.84	
<i>Ocotea leucoxylon</i>	0.01	0.01	12	0.05	
<i>Cordia gerascanthus</i>	0.01	0.01	13	0.07	
<i>Matayba apetala</i>	4.03	8.65	16	138.42	
<i>Trichilia havanensis</i>	0.01	0.01	16	0.03	7.74
<i>Syzygium jambos</i>	0.01	0.01	16	0.19	
<i>Calophyllum antillanum</i>	0.01	0.01	21	0.18	
<i>Drypetes alba</i>	0.89	1.91	21	40.06	
<i>Beilschmiedia pendula</i>	0.01	0.01	22	0.03	
<i>Pseudolmedia spuria</i>	5.93	12.74	22	280.24	
<i>Chionanthus domingensis</i>	0.01	0.01	22	0.21	
<i>Pouteria chrysophyllifolia</i>	0.01	0.03	23	0.58	
	46.55	100.00		773.62	

Note: The forest plot (trees over 25 m high) is at 450 m a.s.l. along a flat to concave hill slope with W exposition. At present *Ficus subscabrida* is a super-dominant species. Root mats do not occur on the soil. The plot is highly humid all year long.

Helechal (real 20 x 20 m forest plot)

FOREST TREE SPECIES	Phytomass (m <sup>3</sup> )	SP	SN	SP x SN	CSI
<i>Tabebuia shaferi</i>	1.88	4.28	2	8.56	
<i>Ficus subscabrida</i>	19.75	44.86	3	134.58	
<i>Sideroxylon foetidissimum</i>	0.03	0.07	7	0.49	
<i>Prunus occidentalis</i>	3.34	7.59	7	53.12	
<i>Dendropanax arboreus</i>	0.02	0.06	8	0.44	
<i>Guarea guidonia</i>	0.32	0.73	8	5.82	
<i>Sloanea amygdalina</i>	0.01	0.03	10	0.34	
<i>Trophis racemosa</i>	1.52	3.44	11	37.89	
<i>Ocotea leucoxylon</i>	0.01	0.01	12	0.05	
<i>Cordia gerascanthus</i>	0.01	0.01	13	0.08	
<i>Matayba apetala</i>	4.03	9.15	16	146.36	
<i>Trichilia havanensis</i>	0.01	0.01	16	0.03	
<i>Citrus aurantium</i>	0.12	0.28	16	4.51	
<i>Chrysophyllum oliviforme</i>	0.01	0.01	16	0.01	10.38
<i>Syzygium jambos</i>	0.01	0.01	16	0.20	
<i>Eugenia confusa</i>	0.01	0.03	17	0.52	
<i>Eugenia farameoides</i>	0.01	0.01	17	0.22	
<i>Casearia sylvestris</i>	0.01	0.01	20	0.01	
<i>Faramea occidentalis</i>	0.12	0.28	20	5.68	
<i>Calophyllum antillanum</i>	0.01	0.01	21	0.19	
<i>Drypetes alba</i>	0.89	2.02	21	42.36	
<i>Nectandra coriacea</i>	0.01	0.01	21	0.01	
<i>Beilschmiedia pendula</i>	0.01	0.01	22	0.03	
<i>Pseudolmedia spuria</i>	11.93	27.09	22	596.09	
<i>Chionanthus domingensis</i>	0.01	0.01	22	0.22	
<i>Pouteria chrysophyllifolia</i>	0.01	0.03	23	0.61	
	44.03	100.00		1038.41	

Note: The forest plot (trees over 25 m high) is at 450 m a.s.l. along a flat to concave hill slope with N exposition. At present *Ficus subscabrida* is a super-dominant species. Root mats commonly do not occur on the soil or if present they are extremely thin and appear in small patches. The plot is highly humid all year long.

*El Ébano* (real 20 x 20 m forest plot)

FOREST TREE SPECIES	Phytomass (m <sup>3</sup> )	SP	SN	SP x SN	CSI
<i>Guazuma ulmifolia</i>	0.01	0.02	1	0.02	
<i>Tabebuia shaferi</i>	1.34	6.14	2	12.29	
<i>Ficus subscabrida</i>	0.18	0.84	3	2.51	
<i>Talipariti elatum</i>	3.76	17.30	4	69.19	
<i>Sideroxylon foetidissimum</i>	0.07	0.32	7	2.25	
<i>Dendropanax arboreus</i>	0.03	0.14	8	1.13	
<i>Alchornea latifolia</i>	3.34	15.37	11	169.08	
<i>Trophis racemosa</i>	0.70	3.24	11	35.63	
<i>Ocotea floribunda</i>	0.07	0.30	12	3.64	
<i>Lonchocarpus domingensis</i>	0.23	1.05	14	14.63	
<i>Matayba apetala</i>	8.09	37.21	16	595.37	
<i>Syzygium jambos</i>	0.01	0.01	16	0.04	13.07
<i>Margaritaria nobilis</i>	0.01	0.01	20	0.08	
<i>Calophyllum antillanum</i>	0.30	1.40	21	29.30	
<i>Nectandra coriacea</i>	0.10	0.46	21	9.64	
<i>Oxandra lanceolata</i>	0.01	0.01	21	0.10	
<i>Beilschmiedia pendula</i>	0.01	0.01	22	0.18	
<i>Pseudolmedia spuria</i>	2.27	10.44	22	229.72	
<i>Chionanthus domingensis</i>	0.05	0.24	22	5.36	
<i>Diospyros caribaea</i>	1.20	5.51	23	126.79	
<i>Pouteria chrysophyllifolia</i>	0.01	0.01	23	0.06	
	21.75	100.00		1307.00	

Note: The forest plot (trees about 20 m high) is at 475 m a.s.l. along a flat to concave hill slope with SE exposition. At present *Matayba apetala* is a super-dominant species. Root mats on the soil surface are rather seasonal, and when appearing, commonly at the beginning of the rainy period, it is often less than 3 cm thick. The plot is humid enough all year long but soil dries and cracks during the drier season.

*El Mulo Sur* (hypothetical example)

FOREST TREE SPECIES	Phytomass (m <sup>3</sup> )	SP	SN	SP x SN	CSI
<i>Ficus aurea</i>	1.50	4.84	3	14.52	
<i>Ficus subscabrida</i>	1.90	6.13	3	18.39	
<i>Ceiba pentandra</i>	2.10	6.77	3	20.32	
<i>Trichospermum grewiifolius</i>	2.10	6.77	4	27.10	
<i>Zanthoxylum martinicense</i>	2.50	8.06	6	48.39	
<i>Samanea saman</i>	1.00	3.23	6	19.35	
<i>Cedrela odorata</i>	1.50	4.84	6	29.03	
<i>Cordia collococca</i>	2.00	6.45	8	51.61	
<i>Guarea guidonia</i>	3.00	9.68	8	77.42	
<i>Eugenia foetida</i>	0.50	1.61	9	14.52	10.97
<i>Sapium jamaicense</i>	0.80	2.58	10	25.81	
<i>Alchornea latifolia</i>	1.20	3.87	11	42.58	
<i>Matayba apetala</i>	3.00	9.68	16	154.84	
<i>Calophyllum antillanum</i>	2.50	8.06	21	169.35	
<i>Andira inermis</i>	1.10	3.55	21	74.52	
<i>Pseudolmedia spuria</i>	3.00	9.68	22	212.90	
<i>Bursera simaruba</i>	1.20	3.87	23	89.03	
<i>Manilkara jaimiqui</i>	0.10	0.32	23	7.42	
	31.00	100.00		1097.10	

Note: The forest plot is at 300 m a.s.l. with a SE exposition. It occurs along a deep concave "V" valley and along the intermittent creeks at the superior basin of *San Juan* River. At present large logs reach over 30 m high. Root mats on the soil surface do not occur. The plot is humid enough all year long but soil dries and cracks during the drier season.

## Macurijal (real 20 x 20 m forest plot)

FOREST TREE SPECIES	Phytomass (m <sup>3</sup> )	SP	SN	SP x SN	CSI
<i>Tabebuia shaferi</i>	1.839	5.52	2	11.04	
<i>Ceiba pentandra</i>	0.440	1.32	3	3.97	
<i>Ficus aurea</i>	0.479	1.44	3	4.31	
<i>Cedrela odorata</i>	4.335	13.01	6	78.07	
<i>Zanthoxylum martinicense</i>	0.016	0.02	6	0.10	
<i>Sideroxylon foetidissimum</i>	0.978	2.94	7	20.56	
<i>Dedropanax arboreus</i>	0.344	1.03	8	8.27	
<i>Guarea guidonea</i>	0.561	1.68	8	13.48	
<i>Alchornea latifolia</i>	6.590	19.78	11	217.58	
<i>Roystonea regia</i>	1.299	3.90	11	42.88	
<i>Trophis racemosa</i>	0.779	2.34	11	25.73	
<i>Ocotea leucoxylo</i>	0.018	0.03	12	0.30	
<i>Cordia gerascanthus</i>	0.047	0.14	13	1.83	
<i>Lonchocarpus domingensis</i>	0.477	1.43	14	20.03	
<i>Savia sessiliflora</i>	0.055	0.17	14	2.31	
<i>Cupania glabra</i>	0.012	0.01	16	0.08	
<i>Chrysophyllum oliviforme</i>	0.015	0.02	16	0.25	13.16
<i>Gymnanthes lucida</i>	0.187	0.56	16	8.98	
<i>Matayba apetala</i>	6.691	20.08	16	321.30	
<i>Trichilia havanensis</i>	0.027	0.08	16	1.28	
<i>Eugenia axillaris</i>	0.046	0.14	17	2.35	
<i>Wallenia laurifolia</i>	0.271	0.81	17	13.84	
<i>Casearia sylvestris</i>	0.016	0.02	20	0.36	
<i>Faramea occidentalis</i>	0.030	0.09	20	1.83	
<i>Margaritaria nobilis</i>	0.104	0.31	20	6.23	
<i>Drypetes alba</i>	0.061	0.18	21	3.87	
<i>Nectandra coriacea</i>	0.029	0.09	21	1.83	
<i>Oxandra lanceolata</i>	0.014	0.04	21	0.88	
<i>Beilschmiedia pendula</i>	0.501	1.50	22	33.09	
<i>Chionanthus domingensis</i>	1.657	4.97	22	109.40	
<i>Ocotea cuneata</i>	1.896	5.69	22	125.20	
<i>Pseudolmedia spuria</i>	3.548	10.65	22	234.28	
<i>Diospyros caribaea</i>	0.014	0.01	23	0.28	
	33.32	100.00		1315.78	

## Bosque Joven (real 20 x 20 m forest plot)

FOREST TREE SPECIES	Phytomass (m <sup>3</sup> )	SP	SN	SP x SN	CSI
<i>Cecropia schreberiana</i>	0.31	1.72	1	1.7	
<i>Sideroxylon foetidissimum</i>	0.32	1.80	7	12.6	
<i>Prunus occidentalis</i>	0.02	0.10	7	0.7	
<i>Dendropanax arboreus</i>	0.02	0.12	8	1.0	
<i>Trophis racemosa</i>	1.27	7.00	11	77.0	
<i>Ocotea leucoxylo</i>	0.01	0.01	12	0.0	
<i>Trichilia havanensis</i>	0.01	0.02	15	0.2	
<i>Cupania americana</i>	0.01	0.01	16	0.0	
<i>Chrysophyllum oliviforme</i>	0.01	0.01	16	0.1	
<i>Matayba apetala</i>	3.73	20.62	16	330.0	
<i>Eugenia axillaris</i>	0.01	0.02	17	0.3	
<i>Wallenia laurifolia</i>	0.02	0.12	17	2.0	
<i>Margaritaria nobilis</i>	0.20	1.08	20	21.7	19.16
<i>Faramea occidentalis</i>	0.06	0.35	20	7.1	
<i>Andira inermis</i>	0.24	1.32	21	27.8	
<i>Calophyllum antillanum</i>	0.17	0.92	21	19.4	
<i>Drypetes alba</i>	0.63	3.50	21	73.5	
<i>Nectandra coriacea</i>	0.01	0.01	21	0.3	
<i>Oxandra lanceolata</i>	1.35	7.46	21	156.8	
<i>Beilschmiedia pendula</i>	0.15	0.85	22	18.8	
<i>Chionanthus domingensis</i>	0.01	0.02	22	0.5	
<i>Prunus myrtifolia</i>	1.02	5.67	22	124.7	
<i>Pseudolmedia spuria</i>	8.52	47.14	22	1037.0	
<i>Pouteria dictyoneura</i>	0.03	0.14	23	3.2	
	18.07	100.00		1916.2	

Note: The forest plot (trees about 20 m high) is at 475 m a.s.l. along a rather flat hill slope with S exposition. At present *Matayba apetala* is a super-dominant species. Root mats on the soil surface are rather seasonal, and when appearing, commonly at the beginning of the rainy period, they are often less than 3 cm thick. The plot is humid enough all year long but soil dries and cracks during the drier season.

Note: The forest plot (trees less than 20 m high) is at 400 m a.s.l. along a convex hill slope with NE exposition. At present *Pseudolmedia spuria*, *Oxandra lanceolata* and *Matayba apetala* dominate the plot. Root mats on the soil surface are permanent along the year reaching less than 5 cm thick. The plot is humid enough all year long but soil dries and cracks during the drier season.



## Cima Macagual (hypothetical example)

FOREST TREE SPECIES	Phytomass (m <sup>3</sup> )	SP	SN	SP x SN	CSI
<i>Ficus subscabrida</i>	0.18	0.67	3	2.02	
<i>Sideroxylon foetidissimum</i>	1.52	5.62	7	39.33	
<i>Cedrela odorata</i>	2.52	9.31	7	65.20	
<i>Spondias mombin</i>	1.56	5.77	7	40.36	
<i>Dendropanax arboreus</i>	0.50	1.85	8	14.78	
<i>Trophis racemosa</i>	1.70	6.28	11	69.12	
<i>Bursera simaruba</i>	8.52	31.49	15	472.36	15.12
<i>Matayba apetala</i>	1.09	4.03	16	64.46	
<i>Calophyllum antillanum</i>	0.30	1.12	21	23.56	
<i>Nectandra coriacea</i>	2.89	10.68	21	224.32	
<i>Oxandra lanceolata</i>	3.62	13.38	21	280.98	
<i>Pseudolmedia spuria</i>	2.65	9.79	22	215.48	
	27.06	100.00		1511.96	

Note: The forest plot (trees less than 15 m heights) is at 350 m a.s.l. along a convex summit directly exposed to sunlight. At present *Bursera simaruba* and *Oxandra lanceolata* dominate the plot. Root mats are absent as in other observed tropical dry forests, perhaps due to litter fall not being constant along the year but concentrated during the drier season. The plot is dry enough all year long and soil dries and cracks during drought.

## El Salón Sur (hypothetical example)

FOREST TREE SPECIES	Phytomass (m <sup>3</sup> )	SP	SN	SP x SN	CSI
<i>Ficus subscabrida</i>	0.10	0.41	3	1.24	
<i>Sideroxylon foetidissimum</i>	1.52	6.27	7	43.89	
<i>Cedrela odorata</i>	0.60	2.47	7	17.32	
<i>Spondias mombin</i>	2.00	8.25	7	57.75	
<i>Dendropanax arboreus</i>	0.10	0.41	8	3.30	
<i>Trophis racemosa</i>	1.70	7.01	11	77.13	
<i>Abarema obovalis</i>	0.60	2.47	14	34.65	
<i>Caesalpinea violacea</i>	1.20	4.95	14	69.30	
<i>Trichilia hirta</i>	0.90	3.71	15	55.68	
<i>Bursera simaruba</i>	5.00	20.62	15	309.36	15.37
<i>Gymnanthes lucida</i>	0.50	2.06	16	33.00	
<i>Matayba apetala</i>	2.00	8.25	16	131.99	
<i>Faramea occidentalis</i>	0.30	1.24	20	24.75	
<i>Andira inermis</i>	0.80	3.30	21	69.30	
<i>Calophyllum antillanum</i>	0.30	1.25	21	26.29	
<i>Nectandra coriacea</i>	1.00	4.12	21	86.62	
<i>Oxandra lanceolata</i>	3.62	14.93	21	313.57	
<i>Pseudolmedia spuria</i>	2.00	8.25	22	181.49	
	24.24	100.00		1536.63	

Note: The forest plot (trees less than 20 m high) is at 250 m a.s.l. along a convex and highly stony hill slope directly exposed to the South. At present *Bursera simaruba* and *Oxandra lanceolata* dominate the plot. Root mats are absent as in other observed tropical dry forests, perhaps due to litter fall not being constant along the year but concentrated during the drier season. The plot is dry enough all year long and soil dries and cracks during drought.

*El Rubí Sur* (hypothetical example)

FOREST TREE SPECIES	Phytomass (m <sup>3</sup> )	SP	SN	SP x SN	CSI
<i>Ficus aurea</i>	3.00	9.65	3	28.94	
<i>Ceiba pentandra</i>	3.00	9.65	3	28.94	
<i>Cedrela odorata</i>	4.00	12.86	6	77.17	
<i>Samanea saman</i>	0.60	1.93	6	11.58	
<i>Eugenia foetida</i>	1.50	4.82	9	43.41	
<i>Cordia gerascanthus</i>	2.00	6.43	13	83.60	
<i>Swietenia mahagoni</i>	3.00	9.65	14	135.05	
<i>Caesalpinia violacea</i>	1.50	4.82	14	67.52	
<i>Bursera simaruba</i>	5.00	16.08	15	241.16	11.82
<i>Gymnanthes lucida</i>	0.50	1.61	16	25.72	
<i>Matayba apetala</i>	2.00	6.43	16	102.89	
<i>Erythroxylum havanense</i>	0.30	0.96	17	16.40	
<i>Oxandra lanceolata</i>	1.90	6.11	21	128.30	
<i>Andira inermis</i>	2.00	6.43	21	135.05	
<i>Pseudolmedia spuria</i>	0.80	2.57	22	56.59	
	31.10	100.00		1182.32	

Note: The forest plot (trees over 30 m high) is at 200 m a.s.l. along a highly stony, wide valley directly exposed to the South. The plot is a part of the superior basin of *San Francisco* river. At present *Bursera simaruba*, *Cedrela odorata* and *Oxandra lanceolata* dominate the plot. Root mats are absent as in other observed tropical dry forests, perhaps due to litter fall not being constant along the year but concentrated during the drier season. The plot is humid during the rainy season and running water additionally increases water availability. However, it is dry enough all year long and soil dries and cracks during drought.

**Appendix VI-B.** Estimation of ceno-successional index (CSI) for several hypothetical forest variants belonging to the assembly of dry and/or saline ecosystems (DSE).

*El Veral* is a plot comprising a Pioneer Stage of medium-height trees (15 to 20 m high) Tropical Dry Forest at the Reserve of Biosphere *Guanahacabibes*, *Pinar del Río* province, Western Cuba; *Punta del Este* is a plot growing a Primary Stage of small trees (less than 10 m high) in a Tropical Dry Forest in the Southeast of *Isla de la Juventud*; and *Carapachibey* is a plot growing a Primary

Stage of medium-height trees (15 to 20 m high) in a Tropical Dry Forest in the South of *Isla de la Juventud*.

*El Veral* (hypothetical example)

FOREST TREE SPECIES	Phytomass (m <sup>3</sup> )	SP	SN	SP x SN	CSI
<i>Cecropia schreberiana</i>	5.23	20.31	1	20.31	
<i>Talipariti elatum</i>	2.25	8.74	1	8.74	
<i>Hamelia patens</i>	3.25	12.62	2	25.24	
<i>Luehea speciosa</i>	1.65	6.41	2	12.81	
<i>Ficus aurea</i>	2.34	9.09	4	36.34	
<i>Eugenia foetida</i>	1.70	6.60	5	33.01	6.90
<i>Cordia gerascanthus</i>	4.66	18.09	8	144.76	
<i>Cedrela odorata</i>	0.10	0.39	9	3.49	
<i>Swietenia mahagoni</i>	0.30	1.18	20	23.57	
<i>Bursera simaruba</i>	4.27	16.58	23	381.35	
	25.75	100.00		689.62	

*Punta del Este* (hypothetical example)

FOREST TREE SPECIES	Phytomass (m <sup>3</sup> )	SP	SN	SP x SN	CSI
<i>Cordia gerascanthus</i>	1.00	5.85	8	46.78	
<i>Ateleia apetala</i>	1.00	5.85	15	87.72	
<i>Simarouba glauca</i>	0.90	5.26	16	84.21	
<i>Citharexylum fruticosum</i>	0.20	1.17	17	19.88	
<i>Adelia ricinella</i>	2.00	11.70	18	210.53	
<i>Krugiodendron ferreum</i>	0.50	2.92	18	52.63	
<i>Lysiloma latisiliqua</i>	1.20	7.02	19	133.33	
<i>Swietenia mahagoni</i>	2.00	11.70	20	233.92	20.12
<i>Gymnanthes lucida</i>	1.20	7.02	21	147.37	
<i>Lysiloma sabicu</i>	2.00	11.70	23	269.01	
<i>Bursera simaruba</i>	3.00	17.54	23	403.51	
<i>Diospyros crassinervis</i>	0.20	1.17	26	30.41	
<i>Amyris balsamifera</i>	1.60	9.36	26	243.27	
<i>Guaicum sanctum</i>	0.30	1.75	28	49.12	
	17.10	100.00		2011.70	

*Carapachibey* (hypothetical example)

FOREST TREE SPECIES	Phytomass (m <sup>3</sup> )	SP	SN	SP x SN	CSI
<i>Ficus aurea</i>	1.00	3.60	4	14.39	
<i>Eugenia foetida</i>	1.50	5.40	5	26.98	
<i>Cordia gerascanthus</i>	2.00	7.19	8	57.55	
<i>Cedrela odorata</i>	2.50	8.99	9	80.94	
<i>Metopium brownei</i>	2.25	8.09	17	137.59	
<i>Pithecellobium lentiscifolium</i>	3.60	12.95	19	246.04	
<i>Swietenia mahagoni</i>	2.00	7.19	20	143.88	
<i>Gymnanthes lucida</i>	1.20	4.32	21	90.65	18.92
<i>Lysiloma sabicu</i>	1.65	5.94	23	136.51	
<i>Bursera simaruba</i>	2.30	8.27	23	190.29	
<i>Erythroxylum havanense</i>	0.90	3.24	26	84.17	
<i>Eugenia axillaris</i>	1.60	5.76	26	149.64	
<i>Andira inermis</i>	3.20	11.51	28	322.30	
<i>Guaiaicum sanctum</i>	2.10	7.55	28	211.51	
	27.80	100.00		1892.45	