

1 **Appendix 1. Relative Importance Value (IV_{REL}), cover (C) and frequency (F) of the 135 species
 2 encountered in 20 savanna sites at Nizanda (Oaxaca), Mexico**

Species	Family	F (%)	C (m^2)	IV_{REL}
<i>Trachypogon spicatus</i> (L.f.) Kuntze	Poaceae	95	101.1389	53.27
<i>Chamaecrista hispidula</i> (Vahl) H.S.Irwin et Barneby	Leguminosae	90	6.8526	6.04
<i>Bouteloua chondrosioides</i> (Kunth) Benth. ex S.Watson	Poaceae	15	10.9000	5.88
<i>Calea urticifolia</i> (Mill.) DC.	Asteraceae	80	6.6965	5.67
<i>Bouteloua repens</i> (Kunth) Scribner et Merr.	Poaceae	75	6.5582	5.46
<i>Bulbostylis vestita</i> (Kunth) C.B.Clarke	Cyperaceae	75	5.1100	4.74
<i>Turnera diffusa</i> Willd. ex Schult.	Turneraceae	100	2.9360	4.38
<i>Oxalis neaei</i> DC.	Oxalidaceae	100	0.4028	3.11
<i>Rhynchospora colorata</i> (L.) H. Pfeiffer	Cyperaceae	65	2.3200	3.05
<i>Polygala variabilis</i> Kunth	Polygalaceae	95	0.5549	3.04
<i>Borreria suaveolens</i> G. Mey.	Rubiaceae	80	1.3799	3.02
<i>Tephrosia nitens</i> Benth.	Leguminosae	65	2.2492	3.02
<i>Calliandra juzepczukii</i> Standl.	Leguminosae	40	3.6635	2.99
<i>Paspalum pectinatum</i> Nees	Poaceae	25	4.4456	2.95
<i>Stylosanthes humilis</i> Kunth	Leguminosae	60	2.1147	2.80
<i>Zornia megistocarpa</i> Mohlenbr.	Leguminosae	90	0.2746	2.76
Leguminosae sp. 08	Leguminosae	80	0.7457	2.70
<i>Polygala serpens</i> S.F.Blake	Polygalaceae	85	0.3261	2.64
Malvaceae sp. 01	Malvaceae	85	0.0758	2.51
<i>Schizachyrium brevifolium</i> (Sw.) Nees ex Buse	Poaceae	70	0.8003	2.44
<i>Metastelma multiflorum</i> S.Watson	Asclepiadaceae	65	1.0110	2.40
<i>Thrasya robusta</i> Hitch. et Chase	Poaceae	55	1.5500	2.38
<i>Aeschynomene paniculata</i> Willd. ex Vogel	Leguminosae	75	0.3734	2.37
<i>Byrsonima crassifolia</i> (L.) Kunth	Malpighiaceae	40	1.9416	2.13
Campanulaceae sp. 01	Campanulaceae	65	0.3824	2.08
Asclepiadaceae sp. 01	Asclepiadaceae	15	3.2086	2.04
Convolvulaceae sp. 01	Convolvulaceae	65	0.2037	1.99
<i>Eriosema crinitum</i> (Kunth) G.Don	Leguminosae	50	1.0528	1.98
<i>Borreria</i> sp. 01	Rubiaceae	60	0.4651	1.98
<i>Chamaecrista serpens</i> (L.) Greene	Leguminosae	15	2.8325	1.85
<i>Oxalis</i> sp. 01	Oxalidaceae	60	0.1641	1.83
<i>Krameria revoluta</i> O.Berg	Krameriaceae	25	1.9477	1.70
<i>Chamaescyse ophthalmica</i> (Pers.) D.G.Baruch	Euphorbiaceae	35	1.1508	1.59
Boraginaceae sp. 01	Boraginaceae	45	0.5405	1.58
<i>Ageratum</i> sp. 01	Asteraceae	35	1.1101	1.57
<i>Pseudosmodingium multifolium</i> Rose	Anacardiaceae	10	2.4976	1.54
<i>Macroptilium gracile</i> (Poepp. ex Benth.) Urb.	Leguminosae	35	1.0149	1.53
<i>Diodia teres</i> Walter	Rubiaceae	40	0.6163	1.47
<i>Polygala longicaulis</i> Kunth	Polygalaceae	45	0.0889	1.35
<i>Chamaecrista flexuosa</i> (L.) Greene	Leguminosae	30	0.9004	1.32
<i>Bulbostylis capillaris</i> (L.) C.B.Clarke	Cyperaceae	40	0.2560	1.29
<i>Digitaria hitchcockii</i> (Chase) Stuck.	Poaceae	15	1.7050	1.29
<i>Galactia argentea</i> Brandegee	Leguminosae	25	1.0413	1.25

<i>Bulbostylis juncoides</i> (Vahl) Kük. ex Osten	Cyperaceae	35	0.4500	1.24
<i>Waltheria indica</i> L.	Sterculiaceae	25	0.9943	1.22
<i>Polygala</i> sp. 01	Polygalaceae	40	0.0484	1.19
<i>Pectis saturejoides</i> (Mill.) Sch.Bip.	Asteraceae	30	0.6028	1.17
<i>Psidium</i> sp. 01	Myrtaceae	30	0.4920	1.12
<i>Borreria verticilata</i> (L.) G.Mey.	Rubiaceae	35	0.1761	1.11
<i>Alophia drummondii</i> (Graham) R.C.Foster	Iridaceae	35	0.0267	1.03
<i>Crotalaria pumila</i> Ortega	Leguminosae	30	0.2604	1.00
<i>Tephrosia nicaraguensis</i> Oerst.	Leguminosae	20	0.7343	0.95
<i>Mimosa goldmanii</i> B.L.Rob.	Leguminosae	20	0.7030	0.93
Leguminosae sp. 01	Leguminosae	10	1.2186	0.90
<i>Aristida adscensionis</i> L.	Poaceae	20	0.6105	0.89
<i>Wedelia acapulcensis</i> Kunth var. <i>tehuantepecana</i> (B.L.Turner) Strother	Asteraceae	20	0.5446	0.85
<i>Porophyllum punctatum</i> (Mill.) S.F.Blake	Asteraceae	25	0.1813	0.82
<i>Andropogon cirratus</i> Hack.	Poaceae	25	0.1700	0.81
Leguminosae sp. 02	Leguminosae	5	1.2346	0.76
Non determined sp. 01	Undetermined	25	0.0130	0.73
<i>Crotalaria sagitalis</i> L.	Leguminosae	20	0.2928	0.73
<i>Zornia reticulata</i> Sm.	Leguminosae	20	0.0898	0.63
<i>Evolvulus alsinoides</i> (L.) L.	Convolvulaceae	20	0.0464	0.61
Acanthaceae sp. 01	Acanthaceae	10	0.6180	0.60
Non determined sp. 02	Undetermined	20	0.0185	0.59
<i>Polygala leptocaulis</i> Torr. et Gray	Polygalaceae	20	0.0075	0.59
<i>Paspalum centrale</i> Chase	Poaceae	10	0.5500	0.57
<i>Mimosa skinneri</i> Benth.	Leguminosae	10	0.4597	0.52
Asteraceae sp. 01	Asteraceae	10	0.4236	0.50
<i>Heliotropium angiospermum</i> Murray	Boraginaceae	15	0.1157	0.49
<i>Waltheria conzantii</i> Standl.	Sterculiaceae	15	0.0938	0.48
<i>Buchnera pusilla</i> Kunth	Scrophulariaceae	15	0.0690	0.47
Non determined sp. 03	Undetermined	15	0.0651	0.47
Asclepiadaceae sp. 02	Asclepiadaceae	15	0.0336	0.45
Non determined sp. 04	Undetermined	5	0.5027	0.40
<i>Chamaescyse villifera</i> (Scheele) Small	Euphorbiaceae	10	0.1486	0.37
<i>Zephyranthes nelsonii</i> Greenm.	Amaryllidaceae	5	0.3682	0.33
<i>Russelia</i> sp. 01	Scrophulariaceae	10	0.0518	0.32
<i>Indigofera lezpedeziooides</i> Kunth	Leguminosae	10	0.0469	0.32
<i>Panicum parcum</i> Hitchc. et Chase	Poaceae	10	0.0450	0.31
Leguminosae sp. 03	Leguminosae	10	0.0419	0.31
<i>Andropogon fastigiatus</i> Sw.	Poaceae	10	0.0400	0.31
Non determined sp. 05	Undetermined	5	0.3153	0.30
<i>Aristida jorullensis</i> Kunth	Poaceae	10	0.0156	0.30
<i>Polygala paniculata</i> L.	Polygalaceae	10	0.0132	0.30
<i>Ipomoea capillacea</i> (Kunth) G.Don	Convolvulaceae	10	0.0116	0.30
<i>Diphysa</i> sp. 01	Leguminosae	10	0.0071	0.30
Leguminosae sp. 04	Leguminosae	10	0.0033	0.29
<i>Cochlospermum vitifolium</i> (Willd.) Spreng.	Bixaceae	10	0.0017	0.29
<i>Cuphea</i> sp. 01	Lythraceae	10	0.0008	0.29

<i>Polygala</i> sp. 02	Polygalaceae	10	0.0015	0.29
<i>Zinnia</i> sp. 01	Asteraceae	5	0.1576	0.22
<i>Sida aggregata</i> C.Presl	Malvaceae	5	0.1429	0.22
Leguminosae sp. 05	Leguminosae	5	0.1418	0.22
Malvaceae sp. 02	Malvaceae	5	0.1305	0.21
<i>Melampodium sericeum</i> Lag.	Asteraceae	5	0.1028	0.20
Poaceae sp. 01	Poaceae	5	0.1000	0.20
<i>Croton repens</i> Schldtdl.	Euphorbiaceae	5	0.0822	0.19
<i>Zamia sparteia</i> A. DC.	Zamiaceae	5	0.0800	0.19
<i>Croton yucatanensis</i> Lundell	Euphorbiaceae	5	0.0796	0.19
<i>Polygala</i> sp. 03	Polygalaceae	5	0.0708	0.18
Non determined sp. 06	Undetermined	5	0.0559	0.17
<i>Hackelochloa granularis</i> (L.) Kuntze	Poaceae	5	0.0550	0.17
<i>Bulbostylis paradoxa</i> (Spreng.) Lindm.	Cyperaceae	5	0.0500	0.17
<i>Chamaescyse blodgettii</i> (Engelm. ex Hitchc.) Small	Euphorbiaceae	5	0.0518	0.17
<i>Espejoa mexicana</i> DC.	Asteraceae	5	0.0457	0.17
<i>Mimosa albida</i> Humb. et Bonpl. ex Willd.	Leguminosae	5	0.0377	0.16
Non determined sp. 07	Undetermined	5	0.0342	0.16
<i>Hibiscus</i> sp. 01	Malvaceae	5	0.0329	0.16
<i>Urochloa mollis</i> (Sw.) Morrone et Zuloaga	Poaceae	5	0.0300	0.16
Non determined sp. 08	Undetermined	5	0.0298	0.16
Rubiaceae sp. 01	Rubiaceae	5	0.0297	0.16
Leguminosae sp. 06	Leguminosae	5	0.0259	0.16
<i>Rhynchosia minima</i> (L.) DC.	Leguminosae	5	0.0229	0.16
<i>Metastelma lanceolatum</i> Schltr.	Asclepiadaceae	5	0.0169	0.15
<i>Heliotropium falax</i> I.M.Johnst.	Boraginaceae	5	0.0108	0.15
<i>Melocactus ruestii</i> K.Schum.	Cactaceae	5	0.0113	0.15
Leguminosae sp. 07	Leguminosae	5	0.0094	0.15
<i>Mytracarpus hirtus</i> (L.) DC.	Rubiaceae	5	0.0090	0.15
<i>Dalea zimapanica</i> S.Schauer	Leguminosae	5	0.0072	0.15
Non determined sp. 09	Undetermined	5	0.0071	0.15
Non determined sp. 10	Undetermined	5	0.0079	0.15
<i>Lantana</i> aff. <i>hirta</i> Graham	Verbenaceae	5	0.0068	0.15
<i>Chamaecrista nictitans</i> (L.) Moench	Leguminosae	5	0.0053	0.15
Non determined sp. 11	Undetermined	5	0.0055	0.15
Poaceae sp. 02	Poaceae	5	0.0050	0.15
<i>Setaria grisebachii</i> E.Fourn.	Poaceae	5	0.0050	0.15
Non determined sp. 12	Undetermined	5	0.0020	0.15
<i>Bouteloua curtipendula</i> (Michx.) Torr.	Poaceae	5	0.0011	0.15
Non determined sp. 13	Undetermined	5	0.0003	0.15
Non determined sp. 14	Undetermined	5	0.0002	0.15
Non determined sp. 15	Undetermined	5	0.0008	0.15
<i>Desmodium barbatum</i> (L.) Benth	Leguminosae	5	0.0009	0.15
<i>Habenaria trifida</i> Kunth	Orchidaceae	5	0.0003	0.15
<i>Schistophragma pusilla</i> Benth	Scrophulariaceae	5	0.0007	0.15

1 **Appendix 2. Relative Importance Value (IV_{REL}), cover (C) and frequency (F) of the 93 species
2 encountered in 11 pasture sites at Nizanda (Oaxaca), Mexico**
3

Species	Family	F (%)	C (m^2)	IV_{REL}
<i>Megathyrsus maximus</i> (Jacq.) B.K.Simon et S.W.L.Jacobs	Poaceae	60	43.3909	33.549
Poaceae sp. 03	Poaceae	40	13.6210	11.597
<i>Desmodium glabrum</i> Mill.	Leguminosae	53.33	12.1124	11.206
Asteraceae sp. 02	Asteraceae	53.33	11.2641	10.610
<i>Antigonon flavescens</i> S.Watson	Polygonaceae	53.33	8.2047	8.457
<i>Tithonia tubiformis</i> (Jacq.) Cass.	Asteraceae	46.67	4.8442	5.757
<i>Mentzelia aspera</i> L.	Loasaceae	60	2.3787	4.694
<i>Melochia tomentosa</i> L.	Sterculiaceae	40	3.6081	4.552
Non determined sp. 16	Undetermined	66.67	1.4577	4.381
<i>Coursetia caribaea</i> (Jacq.) Lavin	Leguminosae	66.67	1.4235	4.357
<i>Acacia cochliacantha</i> Humb. et Bonpl. ex Willd.	Leguminosae	13.33	4.5140	3.847
<i>Setaria grisebachii</i> E.Fourn.	Poaceae	53.33	1.4700	3.719
Leguminosae sp. 09	Leguminosae	60	0.8408	3.612
<i>Callisia multiflora</i> (M.Martens et Galeotti) Standl.	Commelinaceae	60	0.7991	3.582
<i>Urochloa fasciculata</i> (Sw.) R.D.Webster	Poaceae	40	1.9178	3.363
<i>Aeschynomene americana</i> L.	Leguminosae	33.33	2.2863	3.286
Non determined sp. 17	Undetermined	46.67	1.3384	3.291
<i>Turnera ulmifolia</i> L.	Turneraceae	26.67	2.7373	3.268
<i>Acalypha pseudaloprocuroides</i> Pax	Euphorbiaceae	46.67	1.0668	3.100
<i>Rhynchosia minima</i> (L.) DC.	Leguminosae	46.67	0.8521	2.949
<i>Boerharvia coccinea</i> Mill.	Nyctaginaceae	33.33	1.7781	2.929
<i>Waltheria indica</i> L.	Sterculiaceae	46.67	0.3107	2.568
<i>Melochia aff. nodiflora</i> Sw.	Sterculiaceae	46.67	0.0980	2.418
<i>Rhynchelitrum repens</i> (Willd.) C.E.Hubb.	Poaceae	13.33	2.4193	2.373
<i>Merremia quinquefolia</i> (L.) Hallier f.	Convolvulaceae	33.33	0.7886	2.232
<i>Adenophyllum aurantium</i> (L.) Strother	Asteraceae	40	0.3111	2.232
<i>Polanisia viscosa</i> (L.) DC.	Capparaceae	40	0.2938	2.220
Non determined sp. 18	Undetermined	26.67	1.2136	2.196
Acanthaceae sp. 02	Acanthaceae	13.33	2.0341	2.102
<i>Senna holwayana</i> (Rose) H.S.Irwin et Barneby	Leguminosae	20	1.2865	1.912
<i>Ipomoea lutea</i> Hemsl.	Convolvulaceae	26.67	0.5827	1.752
<i>Melochia pyramidata</i> L.	Sterculiaceae	26.67	0.4721	1.675
<i>Abutilon</i> sp. 01	Malvaceae	26.67	0.3574	1.594
<i>Merremia umbellata</i> (L.) Hallier	Convolvulaceae	20	0.7121	1.508
Poaceae sp. 04	Poaceae	13.33	1.0765	1.428
<i>Panicum parcum</i> Hitchc. et Chase	Poaceae	6.67	1.3804	1.307
<i>Stemmadenia obovata</i> (Hook. et Arn) K.Schum.	Apocynaceae	20	0.4159	1.299
<i>Gronovia scandens</i> L.	Loasaceae	20	0.3537	1.256
<i>Malvastrum americanum</i> (L.) Torr.	Malvaceae	20	0.3200	1.232
<i>Acacia farnesiana</i> (L.) Willd.	Leguminosae	20	0.2535	1.185
<i>Senna</i> sp. 01	Leguminosae	20	0.1549	1.116
<i>Zapoteca Formosa</i> (Kunth) H.M.Hern.	Leguminosae	20	0.1454	1.109
Nyctaginaceae sp. 01	Nyctaginaceae	20	0.1067	1.082
<i>Pavonia paniculata</i> Cav.	Malvaceae	20	0.0999	1.077
Non determined sp. 19	Undetermined	13.33	0.5250	1.040
<i>Thouinidium decandrum</i> (Bonpl.) Radlk.	Sapindaceae	20	0.0300	1.028
<i>Croton pseudoniveus</i> Lundell	Euphorbiaceae	13.33	0.4265	0.971
<i>Diphysa macrophylla</i> Lundell	Leguminosae	13.33	0.3944	0.948

<i>Kallstroemia</i> sp. 01	Zygophyllaceae	13.33	0.3530	0.919
Non determined sp. 20	Undetermined	13.33	0.3298	0.903
<i>Galactia striata</i> Jacq. (Urb.)	Leguminosae	13.33	0.3016	0.883
Asteraceae sp. 03	Asteraceae	6.67	0.6833	0.816
<i>Arrabidaea</i> sp. 01	Bignoniacae	13.33	0.2124	0.820
<i>Herissantia crispa</i> (L.) Brizicky	Malvaceae	13.33	0.0494	0.706
<i>Spermacoce confusa</i> Rendle	Rubiaceae	13.33	0.0321	0.694
<i>Heliotropium</i> sp. 01	Boraginaceae	13.33	0.0262	0.689
<i>Boerharvia erecta</i> L.	Nyctaginaceae	13.33	0.0239	0.688
<i>Brickellia diffusa</i> (Vahl.) A.Gray	Asteraceae	13.33	0.0179	0.684
<i>Oxalis neaei</i> DC.	Oxalidaceae	13.33	0.0119	0.679
Non determined sp. 21	Undetermined	6.67	0.2168	0.488
<i>Mansoa hymenaea</i> (DC.) A.H.Gentry	Bignoniacae	6.67	0.1976	0.475
Non determined sp. 22	Undetermined	6.67	0.1910	0.470
<i>Priva lapulacea</i> (L.) Pers.	Verbenaceae	6.67	0.1824	0.464
<i>Adenocalymma inundatum</i> C.Mart. ex DC.	Bignoniacae	6.67	0.0978	0.405
<i>Turnera diffusa</i> Willd. ex Schult.	Turneraceae	6.67	0.0965	0.404
<i>Indigofera jamaisensis</i> Spreng.	Leguminosae	6.67	0.0827	0.394
<i>Leucaena lanceolata</i> S.Watson	Leguminosae	6.67	0.0628	0.380
Leguminosae sp. 10	Leguminosae	6.67	0.0613	0.379
<i>Zinnia</i> aff. <i>flavicomia</i> (DC.) Olorode et A.M.Torres	Asteraceae	6.67	0.0565	0.375
Non determined sp. 23	Undetermined	6.67	0.0397	0.364
<i>Manfreda pubescens</i> (Regel et Ortigies) Verh.-Will.	Agavaceae	6.67	0.0375	0.362
ex Piña				
Non determined sp. 24	Undetermined	6.67	0.0341	0.360
<i>Capraria biflora</i> L.	Scrophulariacae	6.67	0.0314	0.358
<i>Evolvulus alsinoides</i> (L.) L.	Convolvulaceae	6.67	0.0302	0.357
<i>Chamaescyne ophtalmica</i> (Pers.) D.G.Baruch	Euphorbiaceae	6.67	0.0265	0.354
<i>Jacquinia</i> sp. 01	Theophrastaceae	6.67	0.0265	0.354
<i>Dalechampia scandens</i> L.	Euphorbiaceae	6.67	0.0173	0.348
<i>Tabebuia</i> sp. 01	Bignoniacae	6.67	0.0187	0.349
<i>Solanum adscendens</i> Sendtn.	Solanaceae	6.67	0.0176	0.348
<i>Stachytarpheta</i> sp. 01	Verbenaceae	6.67	0.0173	0.348
Asteraceae sp. 04	Asteraceae	6.67	0.0128	0.345
<i>Lonchocarpus</i> aff. <i>lineatus</i> Pittier	Leguminosae	6.67	0.0123	0.344
<i>Lonchocarpus</i> aff. <i>lanceolatus</i> Benth.	Leguminosae	6.67	0.0092	0.342
<i>Cyperus rotundus</i> L.	Cyperaceae	6.67	0.0173	0.348
Non determined sp. 25	Undetermined	6.67	0.0060	0.340
<i>Haplophyton cimicidium</i> A.DC.	Apocynaceae	6.67	0.0047	0.339
<i>Cordia inermis</i> (Mill.) I.M.Johnst.	Euphorbiaceae	6.67	0.0035	0.338
Non determined sp. 26	Undetermined	6.67	0.0028	0.338
Asclepiadaceae sp. 03	Asclepiadaceae	6.67	0.0022	0.337
<i>Krameria revoluta</i> O.Berg	Krameriaceae	6.67	0.0021	0.337
Non determined sp. 27	Undetermined	6.67	0.0016	0.337
<i>Commenila rufipes</i> Seub.	Commelinaceae	6.67	0.0014	0.337
Asteraceae sp. 05	Asteraceae	6.67	0.0011	0.336