

タンザニア連合共和国  
キリマンジャロ林業開発計画調査

報告書  
— 付属資料 —

昭和63年8月

国際協力事業団



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## 植生・林相調査結果一覧表

(注記)

- 出現種のチェック
  - ・ ○ : 実施プロット
  - ・ 縦断・平面図
    - a : プロットサイズ 8m×50m
    - b : " 8m×25m
- 毎木調査
  - a<sub>1</sub> : プロットサイズ 50m×25m / 対象木 DBH 4 cm 以上
  - a<sub>2</sub> : " / " " 10 cm "
  - b<sub>1</sub> : 25m×25m / " " 4 cm "
  - b<sub>2</sub> : " / " " 10 cm "
- 斜面方位
  - N : N45°W - N - N45° E
  - E : N45°E - E - S45° E
  - S : S45° E - S - S45° W
  - W : S45° W - W - N45° W
- 土 壤 型
  - N : ニトソルス                      I : リソソルス
  - B : カンビソルス                  R : 岩 石 地
  - V : パーチソルス                  J : フルビソルス
  - E : レンジナス
- 植生林相タイプ記号  
植生林相区分基準参照
- 群落組成
  - ・ 層 T<sub>1</sub> : 樹木(高木),              T<sub>2</sub> : 樹木(中高木)
  - S : 小 低 木 ,                  H : 草 本 類
  - ・ H : 平均樹高
  - ・ D : 平均胸高直径
  - ・ P.C.V. : 被度(層別)
- プロット毎木調査
  - A : 有用樹(利用木),              B : 未利用樹または不明なもの
- 備 考  
航空写真番号

植生・林相調査結果一覽表

プロット No	調査 月日	調査項目		地形	高さ (m)	方位	距離 (m)	土壌	タイフ 記号	樹名	樹高組成				プロット樹木数				備考		
		場所 チャック	更新 程度								樹高 (m)	D 個	P.C.V %	H 個	A	B	Total	A		B	Total
1	Sep 1	O	a	a	880	None	-	N	St(m)	Acacia, Commiphora	T <sub>1</sub> T <sub>2</sub> S H	- 3-5 1-2 -0.5	- 12 6 -	20 10 30	3 14	40	1.12	0.80	1.92	* C6-16,17	
2	Sep 1	O	a	a	900	None	-	N	St(4)	Commiphora	T <sub>1</sub> T <sub>2</sub> S H	- 4 2 -0.5	- 10 2 -	- 10 5 30	4 15	40	0.10	2.28	2.38	* C5-35,36	
3	Aug 25	O	a	a	900	N	3	N	St(m)	Commiphora Creura	T <sub>1</sub> T <sub>2</sub> S H	- 4 2 0.3-0.8	- 14 -	15 5 10	0 128	128	0	4.24	4.24	* C6-17,18	
4	Aug 22	O	a	a	830	None	0-1	N	St(s)	Acacia Commiphora	T <sub>1</sub> T <sub>2</sub> S H	- 3 1 0.3	- 6 2 -	10 30 10	72	64	1.87	0.82	2.69	* C6-19,20	
5	Aug 22	O	a	a	810	N	1	N	St(m)	Acacia Commiphora	T <sub>1</sub> T <sub>2</sub> S H	- 6 3 2	8 3 20	20	128	320	3.30	1.38	4.68	* C5-31,32	
6	Aug 25	O	a	a	780	None	0-1	N	St(d)	Commiphora Boswellia Acacia	T <sub>1</sub> T <sub>2</sub> S H	7 4 1.5-2 0.5	22 10 -	30 20 20	304	232	536	10.84	7.46	18.30	* C7-24,25 * Commiphora Acacia nitida
7	Aug 25	O	a	a	930	W	7	B	St(d)	Acacia Commiphora	T <sub>1</sub> T <sub>2</sub> S H	11 4 1.5-2	34 2 -	5 20 60	64	48	112	3.99	3.88	7.84	* C7-31,32,33
8	Sep 12	O	b	a	1,030	W	17	B	Df(h)	Acacia Commiphora Creura	T <sub>1</sub> T <sub>2</sub> S H	10-20 6 3	24 16 2-4	50 5 60	18	408	5	38.54	0.25	38.83	* C-31,32,33 * Deciduous forest * Vamari Forest Reserve







プロット No	調査項目	調査期	調査日	調査者	調査地	標高 (m)	方位	面積 (m <sup>2</sup> )	土壌	記号	樹名	樹高 (m)				D (cm)	P.C.V (%)	H (m)	N (No/ha)		V (m <sup>3</sup> /ha)		備考	
												T <sub>1</sub>	T <sub>2</sub>	S	H				A	B	Total	A		B
33			Sep 10		Flat land (River-side)	550	None		B	Bl	Chlorophora, Antiaris, Celtis	30	50	70		30	21	305	0	334.49	0	334.49	C15,14 Ever-green, low-land highforest - Cowin Forest Reserve	
34			Sep 9		River-side	1,000	None		B	Dd(r)	Ficus, Acacia, Manilkara	35	80	70		35	23	80	24	232.11	153.91	386.02	C10D-22,23 Ruarua-Forest (Semi-deciduous high forest.)	
35			Sep 9		Mountain slope (along valley)	1,620	W	34	B	Em	Albizia, Newtonia	15-20	30	50		19	34	280	48	3,498.3	12.30	3,621.3	C12-23,30 Mountain rain forest - Kwizu Forest Reserve	
36			Sep 16		River-side	1,640	None		B	Fp	Plantation of Acacia mearnsii	20	30	60		20							C13-24,25 Plantation and Secondary growth of Acacia mearnsii and Eucalyptus saligna	
37			Sep 16		Mountain slope	1,650	N	22	B	Mg	Philippia, Myrica	3-4	4	5		3							C13-24,25 Philippia, Myrica heath	
38			Sep 15		Mountain ridge	2,080	W	6	B	Em	Ocotea, Podocarpus, Macaranga	25	50	60		15	27	320	88	142.90	75.39	218.29	C11-16,17 Mountain resin forest - Chrome Forest Reserve	
39			Sep 15		Mountain slope	1,810	N	22	B	Fp	Plantation of Acacia mearnsii	8	6	30		9		1,488	0	1,488	54.02	0	54.02	C11-16,17 Plantation and secondary growth of Acacia mearnsii
40			Sep 14		Mountain slope	1,990	W	20	B	Mg	Philippia, Myrica					3		688	0	688	1.25	0	1.25	C10D-6,7 Philippia, Myrica heath

プロット No	調査 年月日	調査項目		地形	標高 (m)	方位	傾斜 (%)	土壌 記号	タイフ 記号	群系名	M				P				プロット毎水調査				備考	
		山頂 の チェック	果 實 の 有無								枯 木 の 有無	樹 高 (m)	種	使 用 種	樹 高 (m)	D 個	P.C.V 個	樹 高 (m)	種	A	B	Total		A
41	Sep 14	○	-	a <sub>1</sub>	1,380	None	-	B	Er	Parinari, Albizia, Syzgium	T <sub>1</sub> T <sub>2</sub> S H	26 7 2-3 0.3-1	50 8 - -	70 5 50 70	26	58	0	144	144	0	414.18	0	414.18	- C11-14, 15 - Mountain riverine forest
42	Sep 11	○	a	a <sub>1</sub>	550	E	4	N	Dd(1 <sub>1</sub> )	Acacia, Commiphora, Boscia	T <sub>1</sub> T <sub>2</sub> S H	4 1.5 0.5	20 2 -	40 10 10	3	9	256	256	848	3.79	8.85	12.56	- C17-8, 9	
43	Sep 11	○	a	a <sub>1</sub>	570	E	3	B	Dd(1 <sub>1</sub> )	Acacia, Commiphora, Boscia	T <sub>1</sub> T <sub>2</sub> S H	3-5 2.5 0.5	18 4 -	10 20 20	4	11	104	104	288	1.70	8.33	10.03	- C14-6, 7	





## 出現植物一覽表

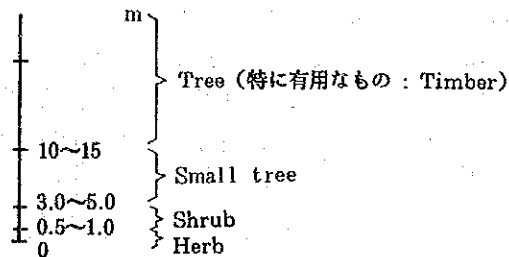
A Short Check-list of Plants Found  
in Same District, Kilimanjaro Region,  
The United Republic of Tanzania

### (留意事項)

1. 本リストは、1987年8月～9月にかけて実施された、JICAによる同国キリマンジャロ林業開発計画調査の植生・林相調査における植生・林相プロット(プロットサイズ: 25m×50m,プロット数43)に出現する重要な植物、合計207種(Tree & Shrub 165種, Herb 42種)をリストアップしたものである。

2. 地方名(Local name)は、現地で実物との対比により確認されたもののみ記載した。( )書きは、やや不明確なものを示す。

3. 習性(Habit)は、下記の概略区分を目安として表示した。



4. 主な用途(Use)は、現地の聞き取りによって明らかなもののみ記載した。(Tree & Shrub について)

- ①: 薪材 Fire wood
- ②: 製炭用材 Charcoal wood
- ③: ポール用材 Pole wood for building
- ④: 薬用木 Medicinal tree
- ⑤: 果樹 Fruit tree
- ⑥: 家具, 建築用材 Furniture timber
- ⑦: 飼料木 Fodder tree
- ⑧: その他 Others, ( )に主な用途を示す。
- X: 用途なし No use

A Short Check-list of Plants Found in Same District,  
 Kilimanjaro Region, Tanzania

No. \_\_\_\_\_

Abba- est	Botanical name	Local name (KIPARE)	Habit	Use
A	(Tree & Shrub)			
	<i>Acacia brevispica</i>	Mpambaluvini	climbing shrub	①
	<i>A. etbaica</i>	Mgulala	small tree	①②
	<i>A. mearnsii</i>	Miwati	planted tree	①②③④ (tannin)
	<i>A. mellifera</i>	Mnoa	tree	①②③
	<i>A. nilotica</i>	Mzamei	small tree	①②③④
	<i>A. senegal</i>		small tree	①②
	<i>A. stuhlmannii</i>		small tree	①②
	<i>A. tortilis</i>	Mghaa	tree	①②③④
	<i>Acalypha</i> sp.	(Ntone)	shrub/herb	
	<i>Adansonia digitata</i>	Mramba	tree "baobab"	
	<i>Adenia globosa</i>	Mbalwa	shrub forming spring	
	<i>Afrocrania volkensii</i>		tree	
	<i>Agauria salicifolia</i>	Idokori	small bush tree	
	<i>Agelaea heterophylla</i>	Igoe-mkanza	climbing shrub	
	<i>Albizia anthelmintica</i>	Mmoro	small tree	④
	<i>A. harveyi</i>		small tree/shrub	①
	<i>A. gummifera</i>	Mkirigwi, Msani	tree	①②⑥
	<i>A. petersiana</i>	Mkonzala	tree	①⑤
	<i>A. sericosephala</i>		tree	①
	<i>A. schimperana</i>		tree (timber)	①②⑥
	<i>Aningeria adolphi-fredericii</i>		tree (timber)	⑥
	<i>Anthocleista grandiflora</i>		tree	
	<i>Antiaris toxicaria</i>	Mkomba	tree	
	<i>A. usambarensis</i>		tree (timber)	⑥
	<i>Aphloia theiformis</i>	Msharashara	tree/shrub	①②③
	<i>Asparagus citaceus</i>		shrub/herb	
	<i>A. falcatus</i>	Shumbawe	climbing shrub	
	(Herb)			
	<i>Abutilon</i> sp.			
	<i>Achyranthes aspera</i>			
	<i>Adenium obesum</i>		"desert rose"	
	<i>Aframomum angustifolium</i>	Matungululu		
	<i>Agave sisalana</i>		"sisal"	
	<i>Aloe</i> sp.	Kisapa	herb/shrub	
	<i>Aristida</i> sp.	Mnyaa		
	<i>Asparagus</i> sp.		climber	

A Short Check-list of Plants Found in Same District,  
 Kilimanjaro Region, Tanzania

No. \_\_\_\_\_

Maka- bst.	Botanical name	Local name (KIPARE)	Habit	Use
B	(Tree & Shrub)			
	<i>Balanites aegyptiaca</i>	Mkongga	small spring tree	(1)(2)(3)(8) (tool handle)
	<i>Blighia unijugata</i>		shrub	
	<i>Boscia coriacea</i>	Mdudu	small evergreen tree	(1)
	<i>Boswellia elegans</i>	Mhambara	small tree	(1)(4)(5)
	<i>Brachylaena hutchinsii</i>	Mkarambati	small tree	(1)(2)(3)
	<i>Bridelia micrantha</i>	Mkongele	small tree	
	(Herb)			
	<i>Barleria argentea</i>		herb/shrub	
	B. sp.	Sengerati	pricking herb	
	<i>Bidens pilosa</i>			
C	(Tree & Shrub)			
	<i>Calotropis procera</i>	Mkaburi	Evergreen shrub	
	<i>Canthium hispidum</i>		shrub	
	<i>Capparis tomentosa</i>	Mtero	climbing shrub	
	<i>Cassia siamea</i>		planted tree	(1)(2)(3)
	<i>Cassipourea malosana</i>		tree (timber)	(6)
	<i>Celtis zenkeri</i>		tree (timber)	(1)
	<i>Chlorophora excelsa</i>		tree (timber)	(6)
	<i>Clerodendron sp.</i>		climber	
	<i>Clusia abyssinica</i>	Mvuruku	shrub	
	<i>Cola sp.</i>		tree	(1)(2)
	<i>Combretum goetzii</i>		shrub	
	<i>C. molle</i>		shrub	
	C. zeyheri	(Mkama)	small tree	(1)(2)
	C. sp.	(Mlama)	shrub	
	<i>Commiphora africana</i>	Mnsu	small tree	X (?) only young tree
	C. schimperi	Mnsu	tree	X (?) only young tree
	<i>Cordia africana</i>	Mringaringa	tree	
	C. ovalis	Isibo-la-vaghodi	shrub/small tree	
	C. sinensis	Mdelalo	shrub/small tree	
	<i>Crassocephalum mannii</i>	Ikondokondo	shrub	
	<i>Croton sp.</i>	Isiro	shrub	(1)
	<i>Cussonia spicata</i>		tree	
	<i>Cytranthus obliquinervis</i>		shrub	
	(Herb)			



A Short Check-list of Plants Found in Same District,  
Kilimanjaro Region, Tanzania.

No. \_\_\_\_\_

Alphabet	Botanical name	Local name (KEPARE)	Habit	Use
G	(Tree & Shrub)			
	<i>Garcinia volkensii</i>		tree	
	<i>Grewia fallax</i>	Mlawwa	shrub/small tree	①
	<i>G. similis</i>	Mlawwa	shrub/small tree	①②③
	<i>G. tenax</i>	Mkokoro	shrub	①②③
H	(Tree & Shrub)			
	<i>Haplocoelum inopleum</i>		small tree	①②③
	<i>Harungana madagascariensis</i>	Ikundukundu	tree	
	<i>Hibiscus fuscus</i>	Mshawe	shrub	
	<i>Hippocratea</i> sp.		shrub	
	<i>Hoslundia opposita</i>	Mtundalisha	shrub	
	<i>Hymenodictyon parvifolium</i>	(Mlukindi)	shrub	
	(Herb)			
	<i>Helichrysum</i> sp.			
	<i>Heteropogon contortus</i>			
	<i>Hygrophila</i> sp.			
I	(Tree & Shrub)			
	<i>Indigofera</i> sp.	Nyanje	shrub	
	(Herb)			
	<i>Impatiens usambarensis</i>			
	<i>Ipomoea kituiensis</i>	I smbe		
J	(Herb)			
	<i>Justicia pseudorungia</i>			
K	(Tree & Shrub)			
	<i>Kotscha</i> sp.		shrub	

A Short Check-list of Plants Found in Same District,  
Kilimanjaro Region, Tanzania

No. \_\_\_\_\_

Notes	Botanical name	Local name (KIPARE)	Habit	Use
L	(Tree & Shrub)			
	<i>Landolphia kirkii</i>	Ivungo	climbing shrub	
	<i>Lanea stuhlmannii</i>	Isighe	tree	①
	L. sp.	(Mkalafue)	shrub	
	<i>Lasianthus kilimandscharicus</i>		tree	①③
	<i>Lecaniodiscus flaxinifolius</i>		shrub	
	<i>Lepidotrichilia volkensii</i>		tree	①②
	<i>Lippia ukambensis</i>		shrub	
8	<i>Lonchocarpus bussei</i>	Kiombati	small tree	
	(Herb)			
	<i>Leucas pododiskos</i>			
	<i>Labelia</i> sp.			
M	(Tree & Shrub)			
	<i>Macaranga capensis</i>	Ibaambono	tree	⑥
	<i>Maerna eminii</i>	Idudu, Thunyurira	shrub	①
	M. parvifolia		small tree	①③
	M. triphylla	(Idudu)	shrub	①
	<i>Maesa lanceolata</i>	Ijaja	small tree	①
	<i>Manilkara obovata</i>		tree	①②③④
	M. sulcata		small tree	①③④ (bee-hive)
	<i>Maytenus senegalensis</i>		shrub	①
	<i>Microglossa oblongifolia</i>	(Ihumbu)	shrub	
	<i>Myrica salicifolia</i>	Muangwi	small heath tree	①④
11	<i>Mytragyna rubrostipulata</i>	Ikundukundu	tree (timber)	
	(Herb)			
	<i>Monstrea brunonius</i>			
N	(Tree & Shrub)			
	<i>Newtonia buchananii</i>	Mririgwi Maha Shita	tree (timber)	⑥
	<i>Nuxia floribunda</i>	Muasho, Nkwati	tree	⑥
O	(Tree & Shrub)			
	<i>Ocotea usambarensis</i>	Mase	tree (timber)	⑥



A Short Check-list of Plants Found in Same District,  
 Kilimanjaro Region, Tanzania

No.

Abta- bet.	Botanical name	Local name (KEPARE)	Habit	Use	
9	R <i>Rothmannia fischeri</i>		shrub		
	<i>Rubus</i> sp.	Mtelia	bramble		
	<i>Rutidea syringoides</i>		climber		
	<i>Rytigynia schumannii</i>		shrub		
9	S (Tree & Shrub)				
	<i>Saba florida</i>	Ivungo	climbing shrub		
	<i>Salvadora persica</i>	Mkayo	small tree/shrub	⑧ (tooth-brush)	
	<i>Sansevieria ehrenbergii</i>	Ikonje	shrub/herb		
	<i>Schefflea</i> sp.		climber		
	<i>Securinega virosa</i>		shrub		
	<i>Sorindeia madagascariensis</i>	Mkunguwa	tree	⑦⑤	
	<i>Sterculia appendiculata</i>	Mfunu	tree		
	<i>Strychnos</i> sp.		small tree/shrub	⑦②③	
	<i>Syzygium guineense</i>	Mlama, Msiu	tree	①	
	4	(Herb)			
		<i>Sansevieria</i> sp.	(Makonje)		
<i>Setaria</i> sp.					
<i>Sida</i> sp.		Sengereti			
12	T (Tree & Shrub)				
	<i>Tabernaemontana holstii</i>		tree	④	
	T. sp.		shrub		
	<i>Tarchonanthus camphratus</i>	Mfungufugu	shrub		
	<i>Tarenna pavettoides</i>	Kitundu	shrub		
	<i>Teclea nobilis</i>		tree	⑥③	
	<i>Tephrosia</i> sp.		shrub		
	<i>Terminalia brownii</i>		small tree		
	T. sp.	(Maluku)	shrub		
	<i>Tooldalia asiatica</i>	Mdongonyezi	climbing shrub		
	<i>Triacora funifera</i>		climber		
	<i>Trichocladus ellipticus</i>		tree	⑦③	
<i>Trelepsium madagascariensis</i>		tree	①		
1	(Herb)				
<i>Tegetes minuta</i>	Mbange	woody herb			







植生縦断・平面図（抜粋）

PROFILE OF VEGETATION RESEARCH PLOT

(A PART)

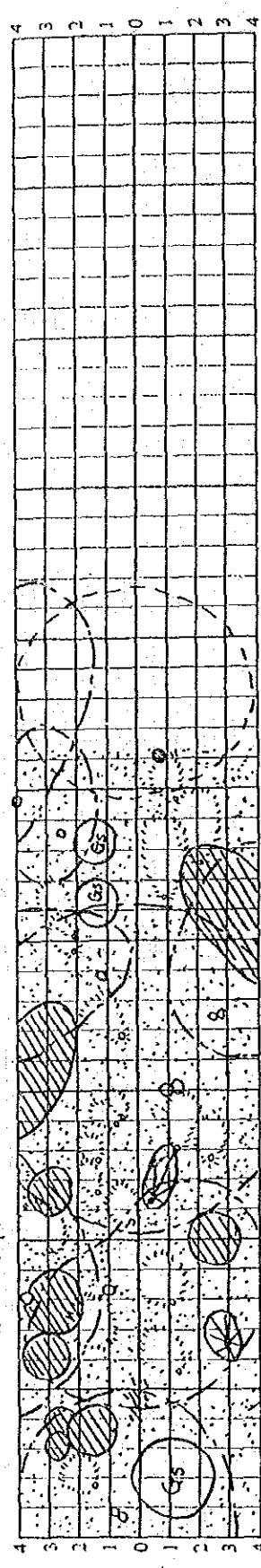
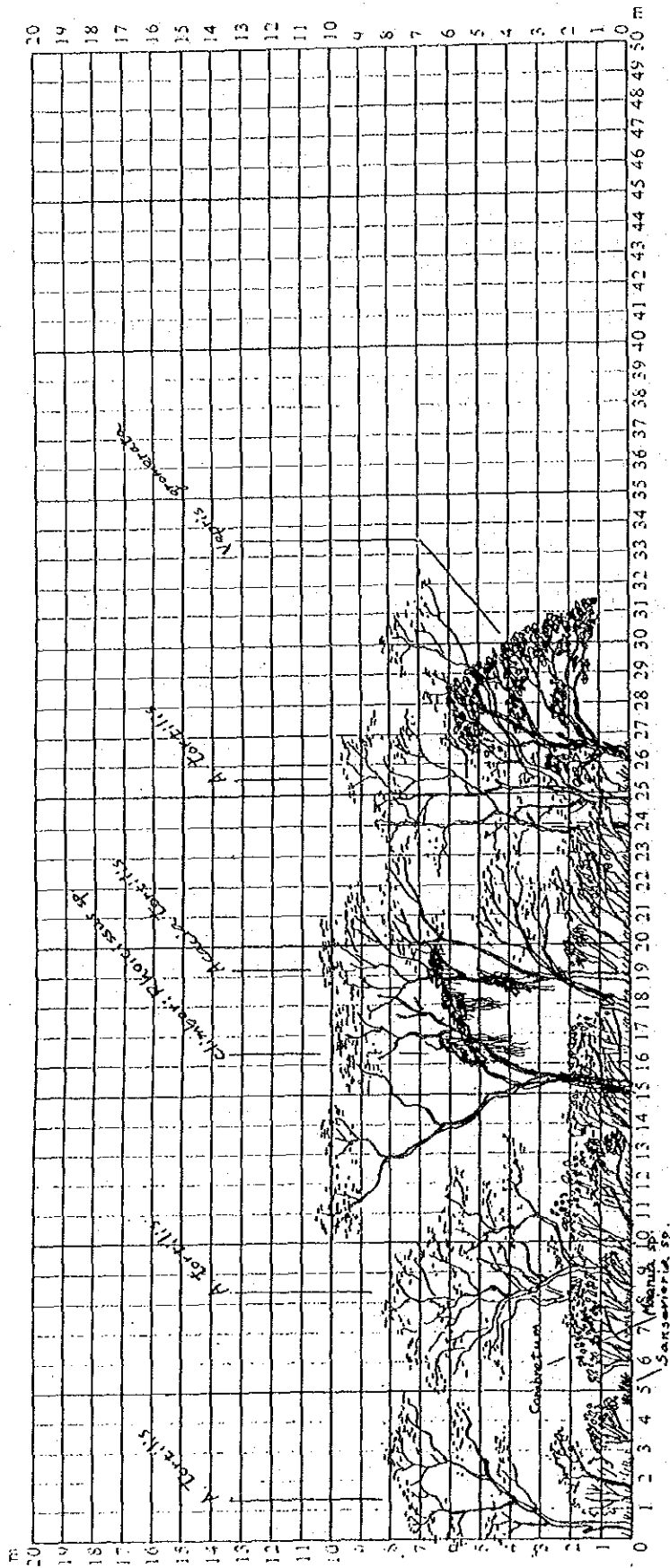
内 容

Contents

プロットNo. Plot No.	植生・林相タイプ Vegetation type	プロットNo. Plot No.	植生・林相タイプ Vegetation type
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32	Dd(h <sub>2</sub> )	3	St(m <sub>1</sub> )
42	Dd(l <sub>1</sub> )	5	St(m <sub>2</sub> )
17	Dd(l <sub>2</sub> )	22	St(s <sub>1</sub> )
11	Dd(l <sub>3</sub> )	27	St(s <sub>2</sub> )
30	Sd(g <sub>1</sub> )	25	St(g) ~ Sw
31	Sd(g <sub>2</sub> )	19	St(r)
26	Sd(r)	13	Sw
6	St(d <sub>1</sub> )		

PROFILE OF VEGETATION RESEARCH PLOT

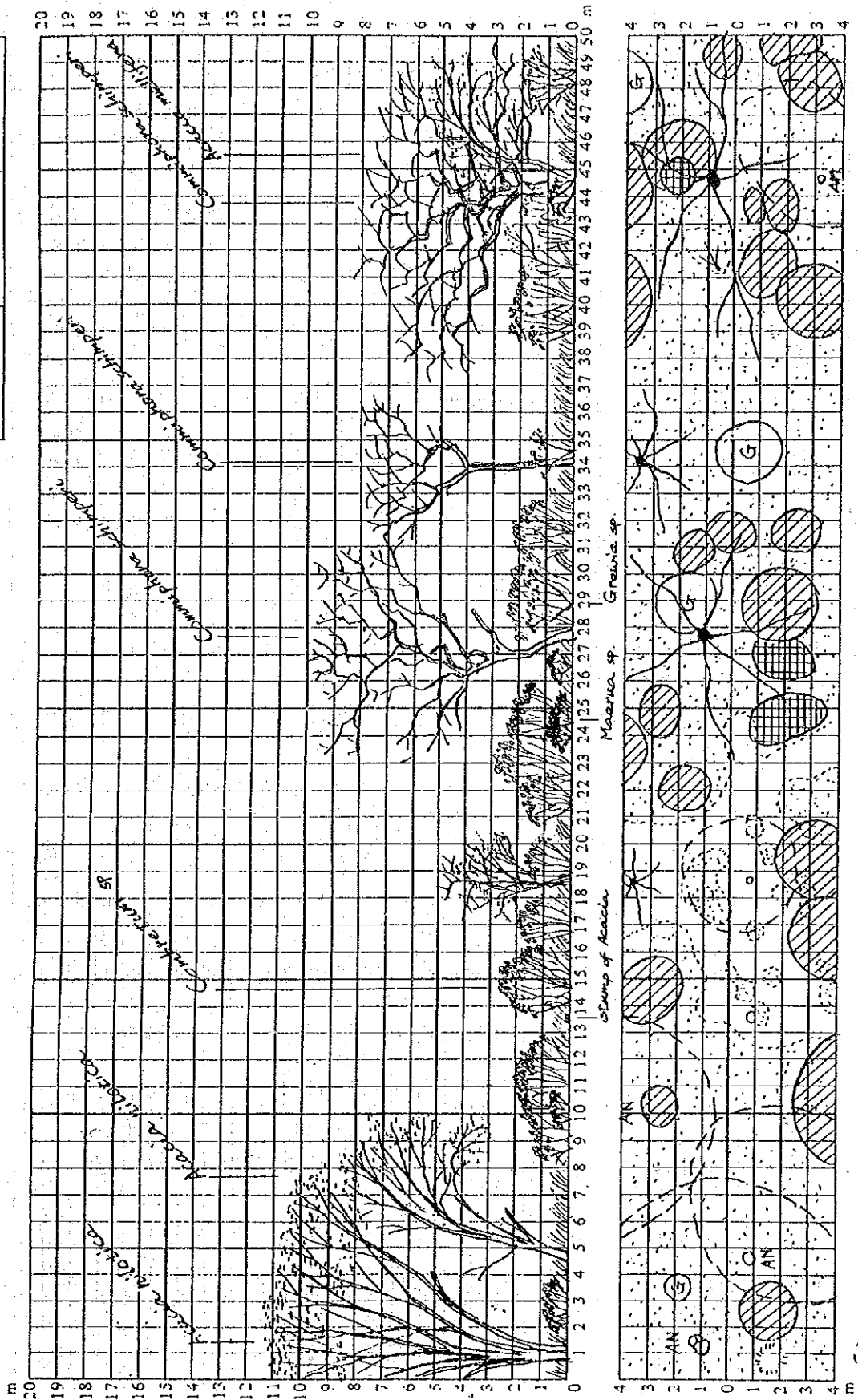
Dd(h1)	Plot No.	8
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- (o) Acacia torrellii
- (G) Acacia brevispica
- (G) Grewia similis
- (⊗) Combretum sp.
- (⊗) Maesua triphylla
- (o) Vepria glomerata

PROFILE OF VEGETATION RESEARCH PLOT

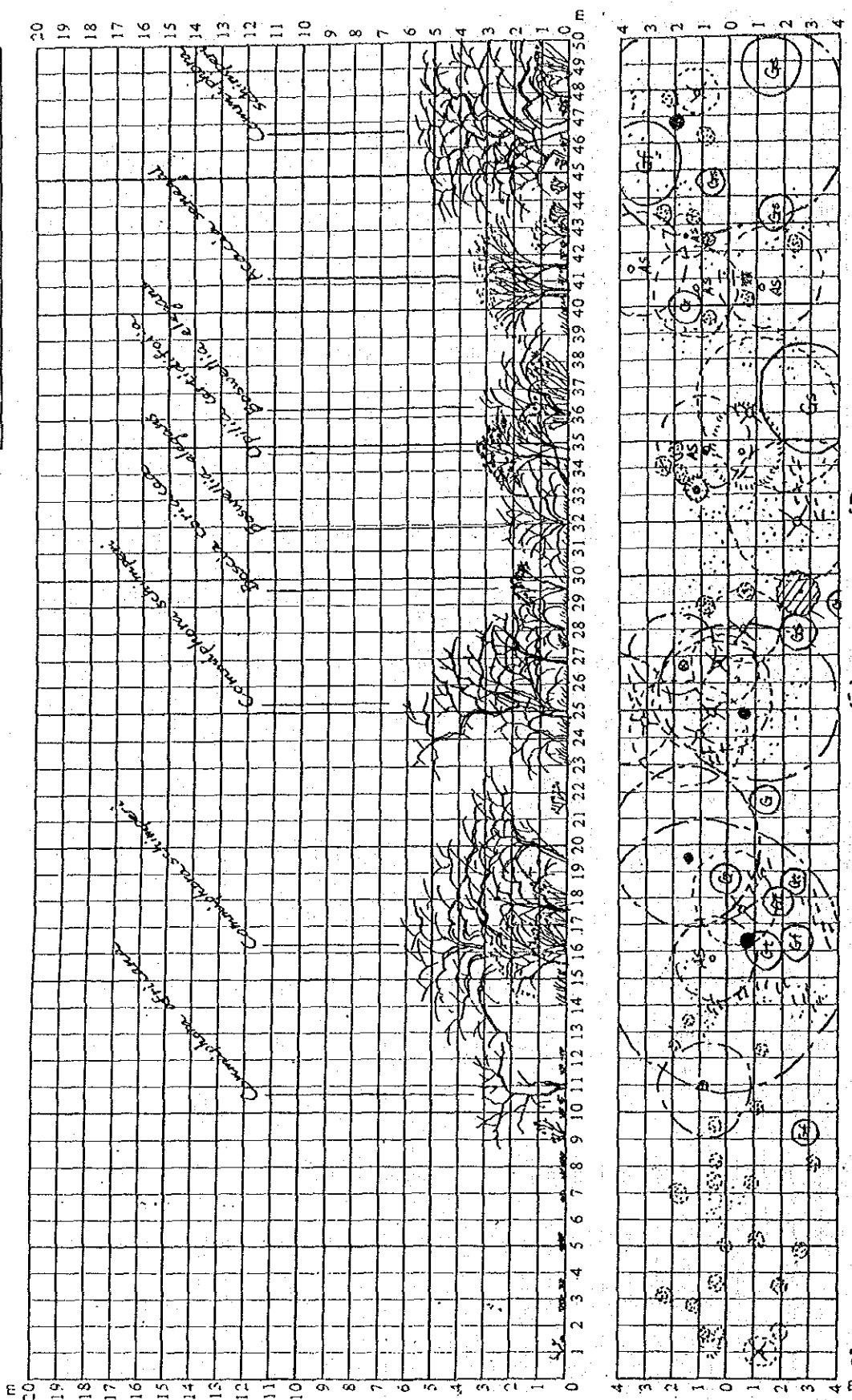
Dd (h2) Plot No. 32



- (AN) Acacia nilotica
- (S) Sida sp.
- (P) Panicum maximum
- (G) Grewia sp.
- (C) Combretum sp.
- (M) Maama sp.
- (X) Commiphora schimperi
- (O) Opilia cartidifolia

PROFILE OF VEGETATION RESEARCH PLOT

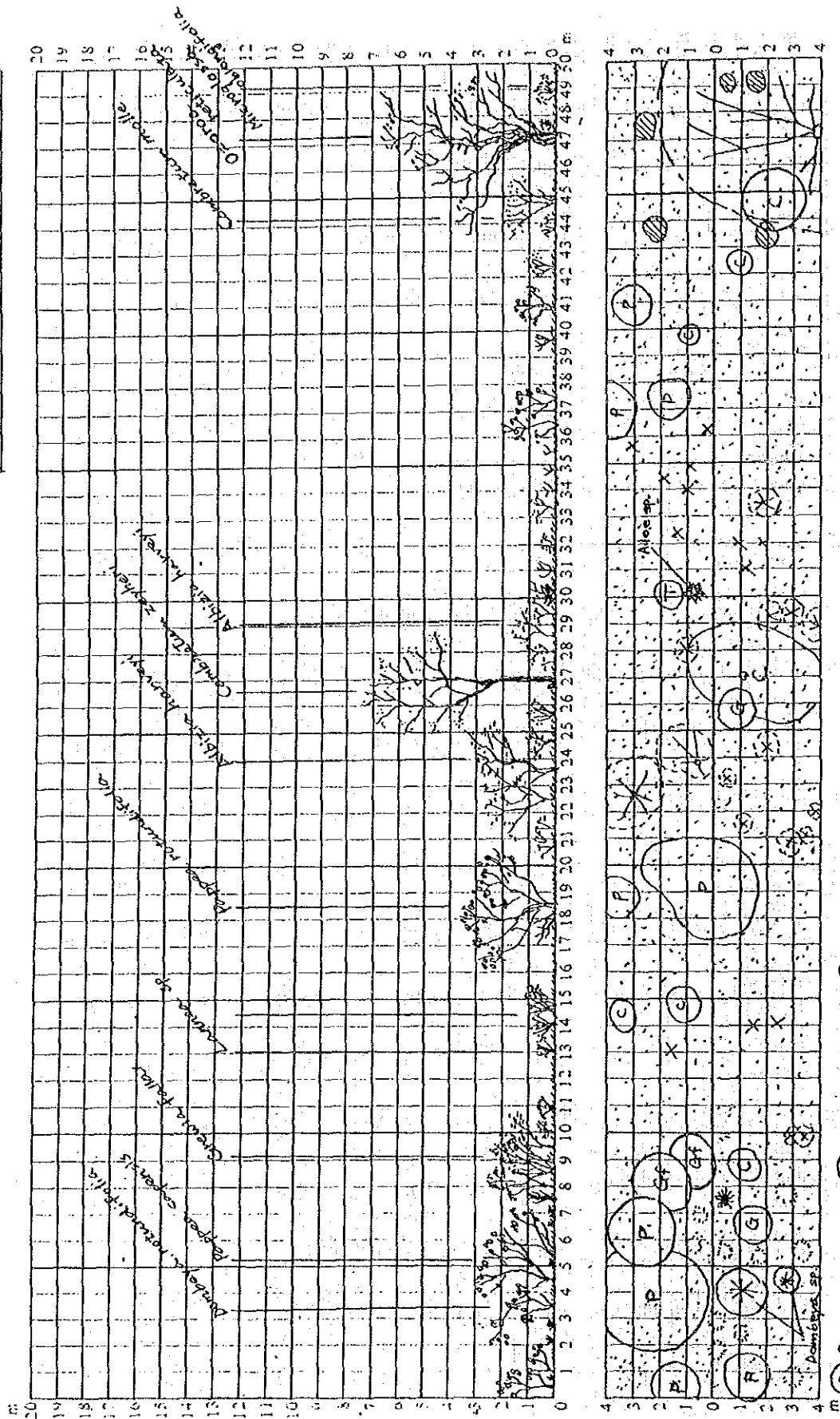
Dd (L1) Plot No. 42





PROFILE OF VEGETATION RESEARCH PLOT

Det (Ls)	Plot No.
	11

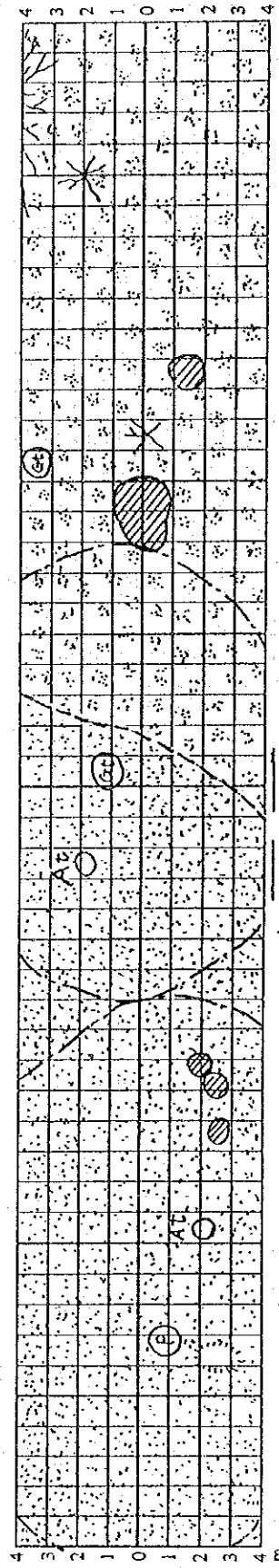
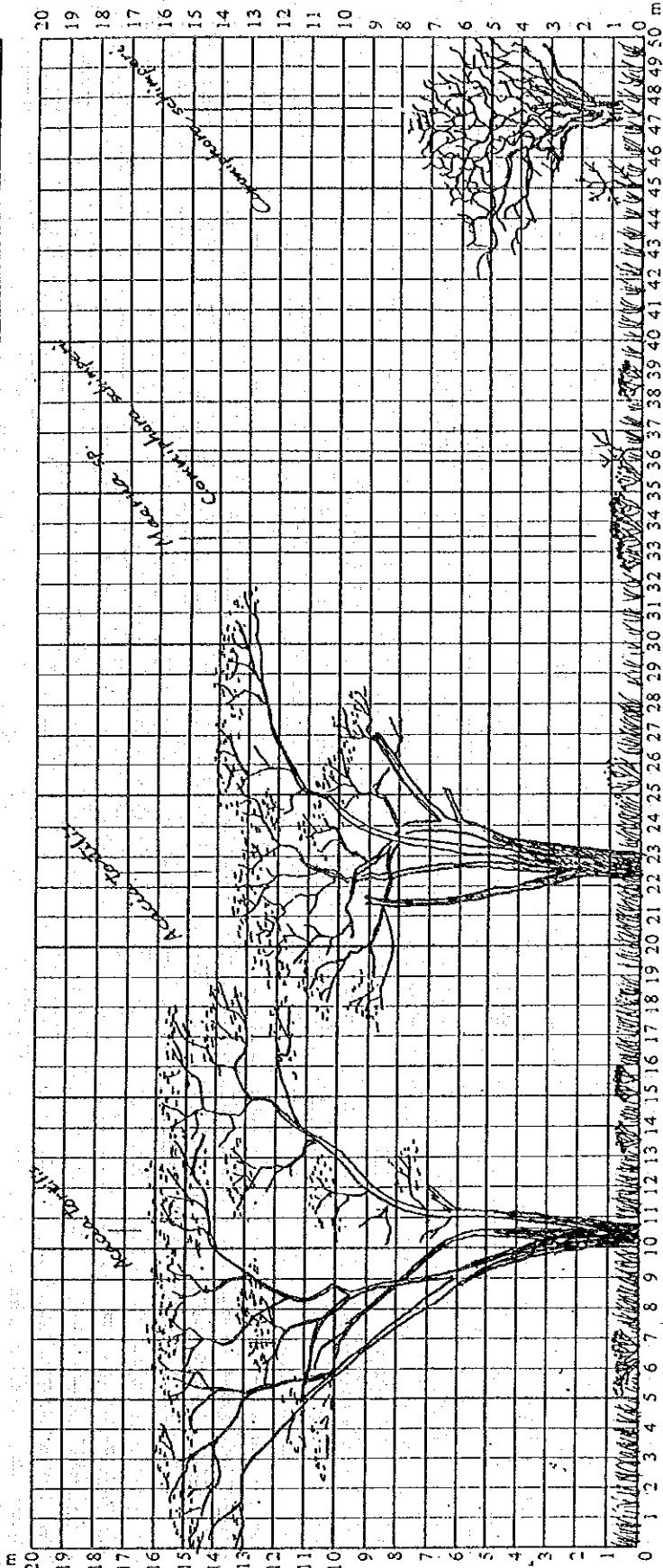


- (P) Pappia capensis
- (G) Grewia fallax
- (C) Combretum zeyheri
- (X) Lanera sp.
- (\*) Comiphora africana
- (A) Albizia harveyi
- (T) Terminalia sp.
- (O) Ozoroa reticulata
- (M) Microglossa oblongifolia
- (H) Heteropogon contortus
- (S) Aristida sp.



PROFILE OF VEGETATION RESEARCH PLOT

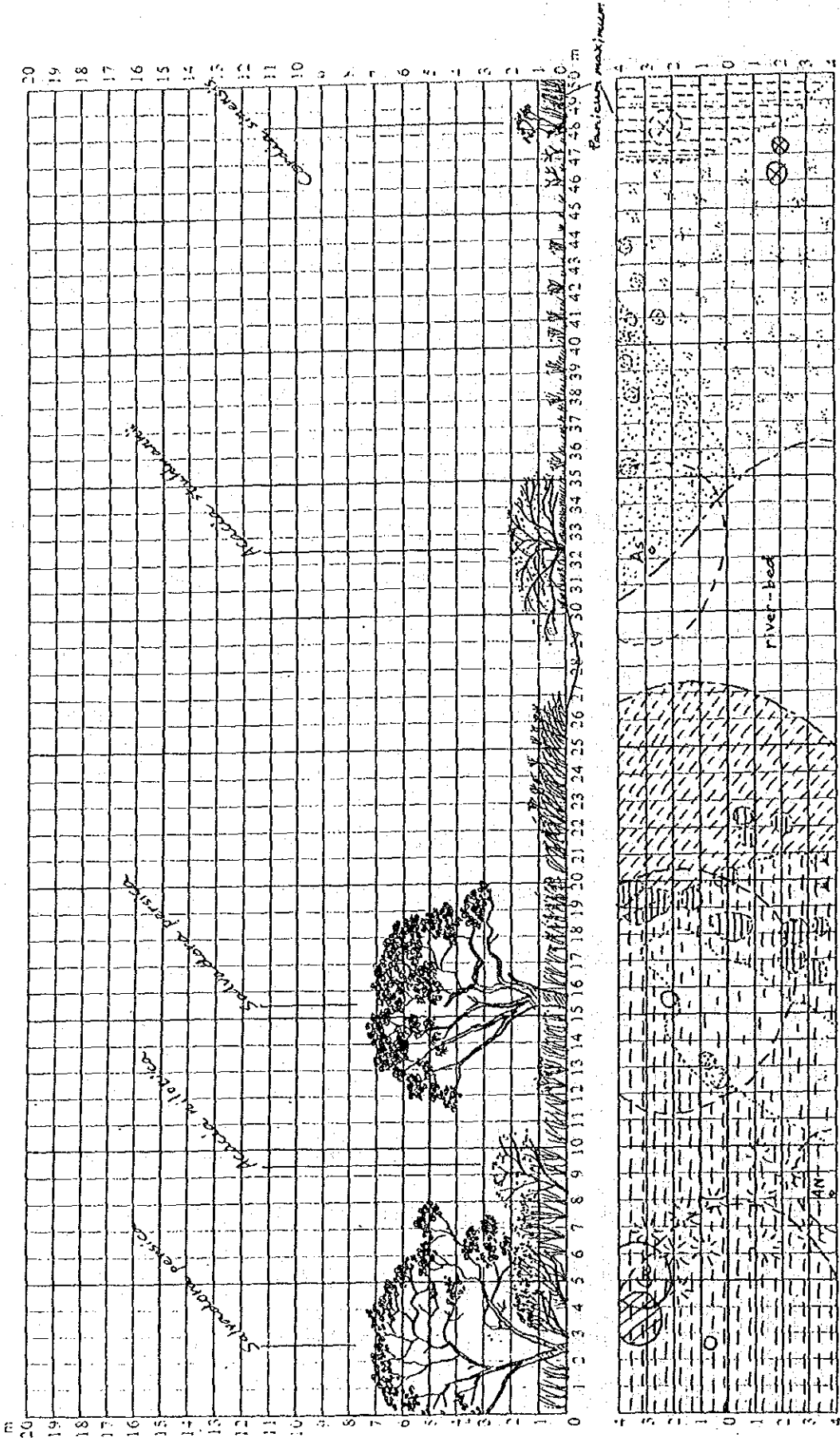
Sd. (91) Plot No. 30



(At) Acacia tortilis (P) Pupalia lappacea (O) Maerua sp. (B) Commiphora schimperi  
 dense herbs middle-dense herbs Chloris gyna  
 \* Asparagus falcatus \* Pariscum maximum

PROFILE OF VEGETATION RESEARCH PLOT

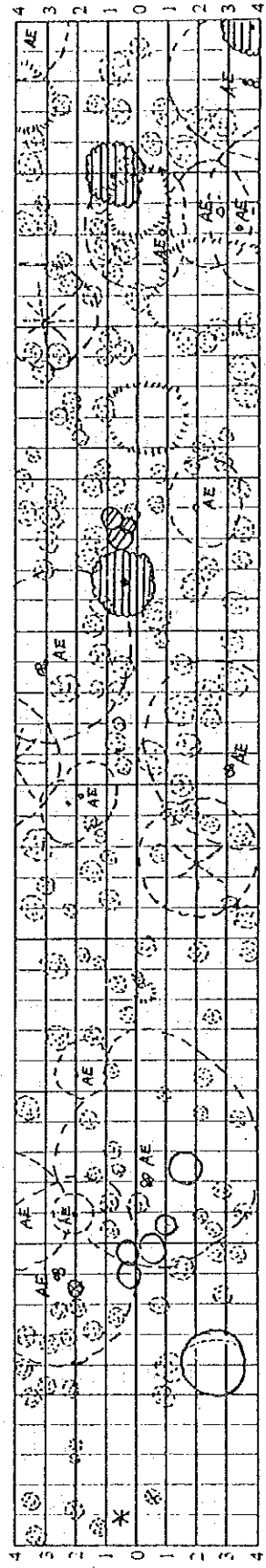
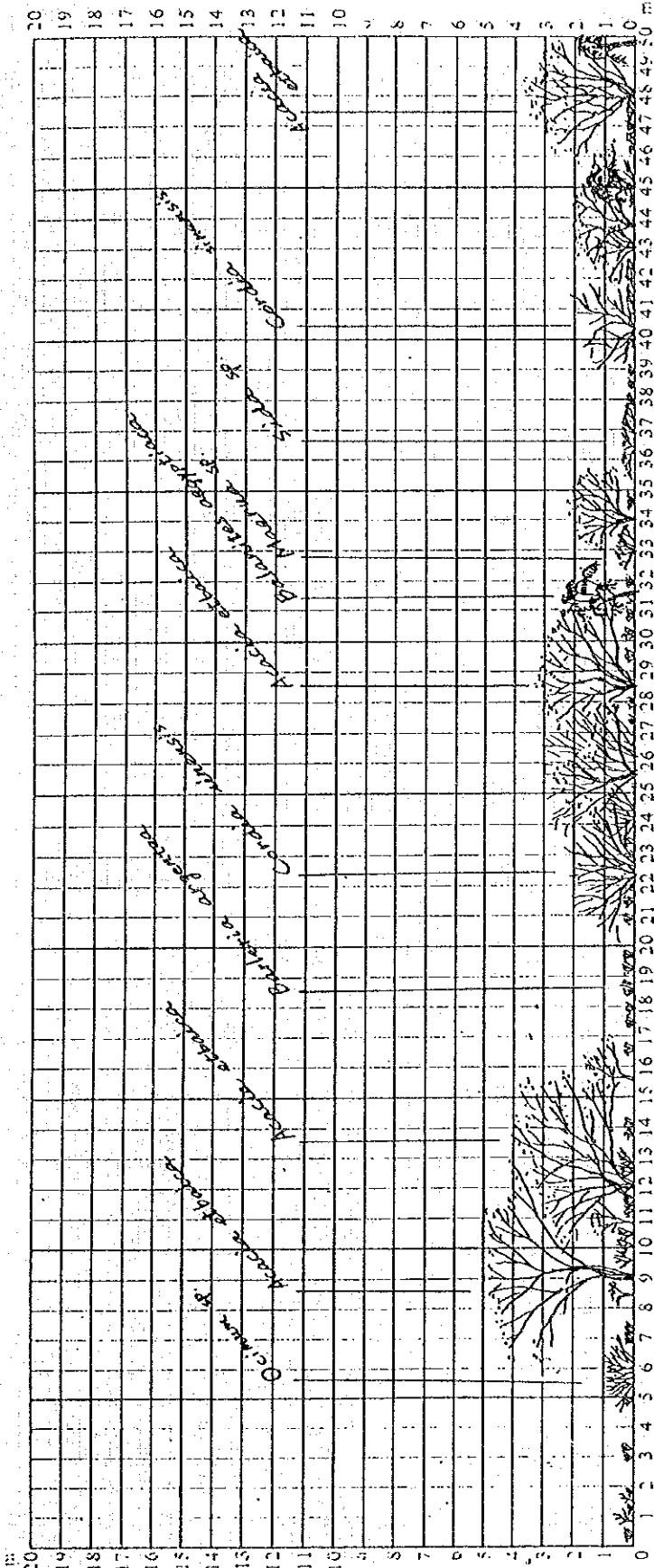
Sd (92) Plot No. 31



- (○) *Salvadora persica*
- (⊗) *Combretum* sp.
- (⊕) *Grewia similis*
- (⊖) *Securinea virosa*
- (⊙) *Indigofera* sp.
- (⊗) *Hydrocotyle* sp.
- (⊕) *Crotalaria* sp.
- (⊖) *Cordia sinensis*
- (⊙) *Acacia nilotica*
- (⊕) *Acacia stuhlmanii*
- (⊖) *dense Seteria* sp.
- (⊙) *dense Cyodon dactylon*
- (⊕) *sparse Seteria* sp.
- (⊖) *sparse Cyodon dactylon*

PROFILE OF VEGETATION RESEARCH PLOT

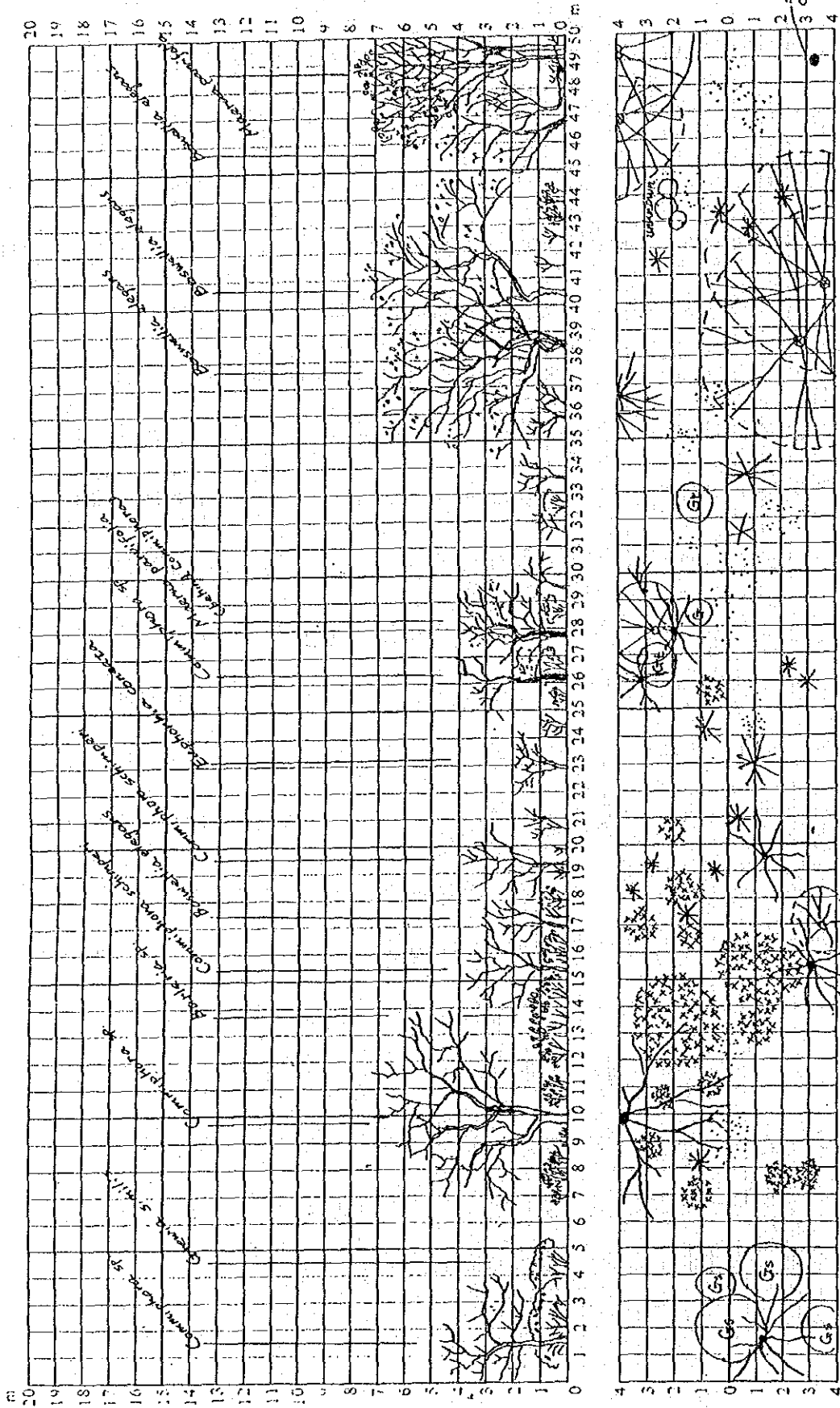
Sd(r)	Plot No.	26
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- ⊙ *Balanites aegyptiaca*
- ⊙ *Balanites sp.*
- ⊙ *Maerua sp.*
- \* *Barleria argentea*
- ⊙ *Euphorbia corollata*
- ⊙ *Sida sp.*
- ⊙ *Acacia etbaica*
- ⊙ *Ocimum sp.*
- ⊙ *Cordia sinensis*
- ⊙ *Balanites aegyptiaca*

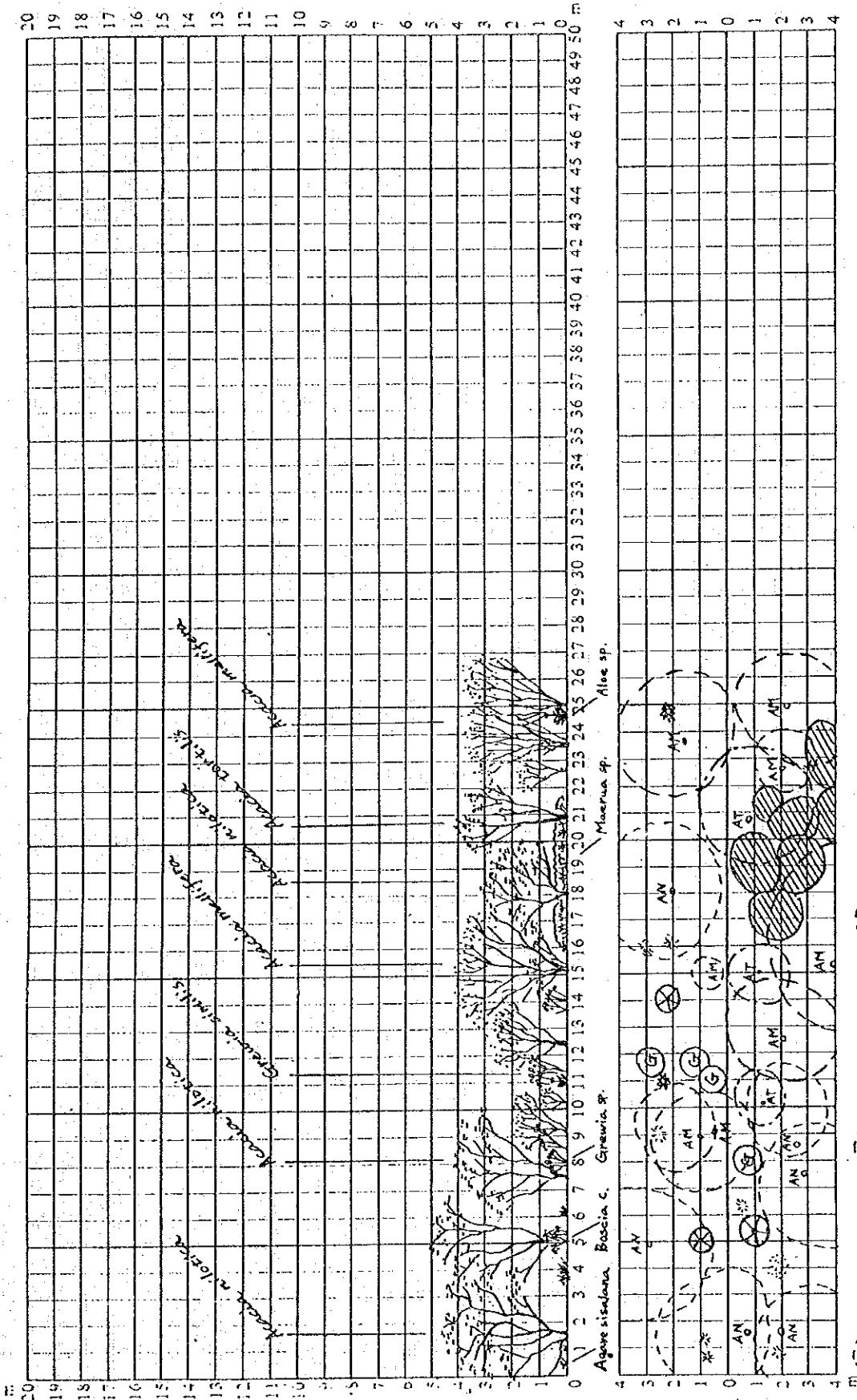
PROFILE OF VEGETATION RESEARCH PLOT

St (d1)	Plot No.
6	6



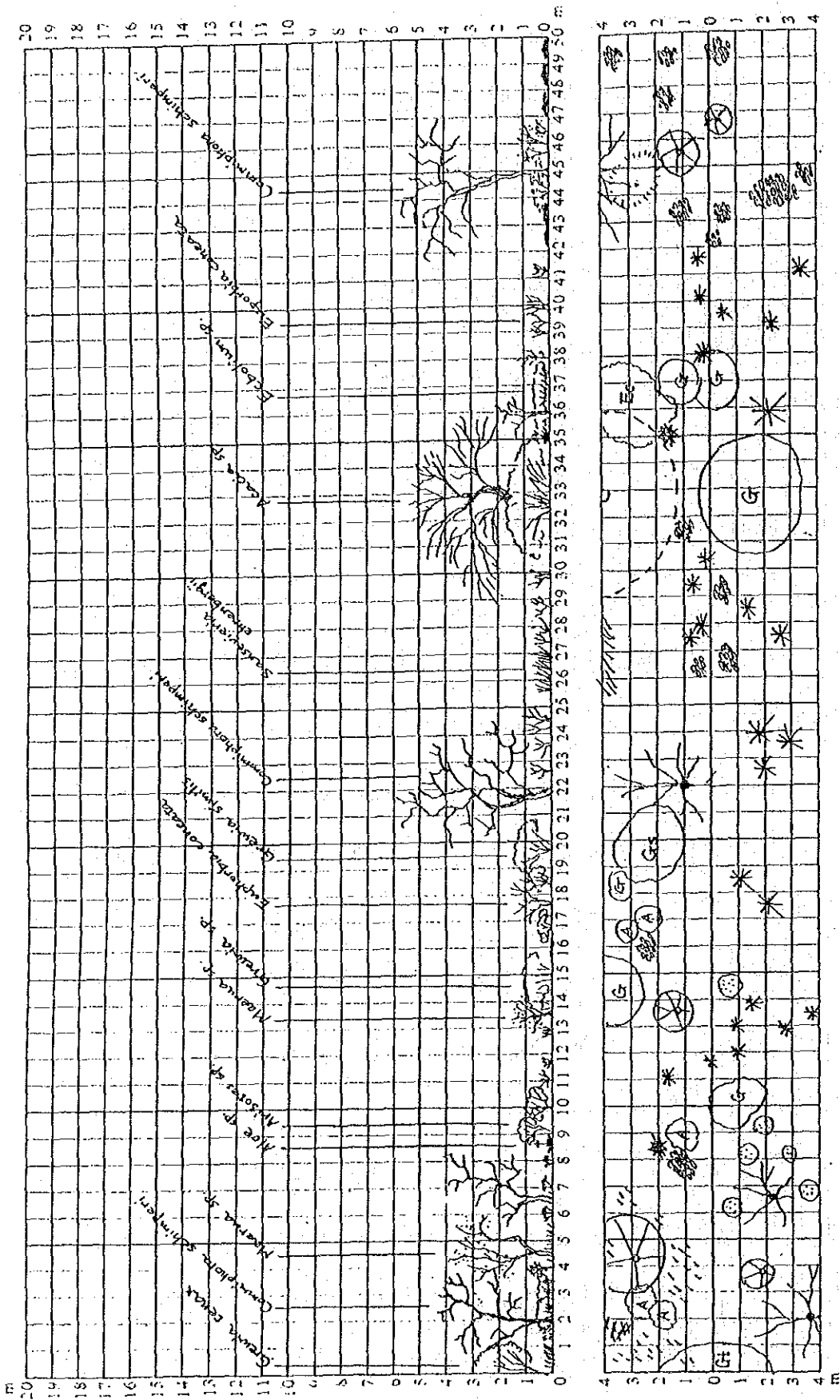
PROFILE OF VEGETATION RESEARCH PLOT

St (d2) Plot No. 14



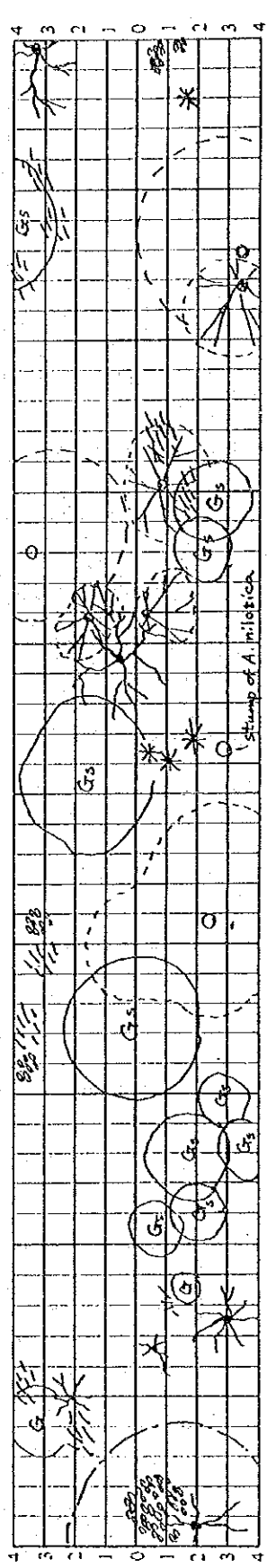
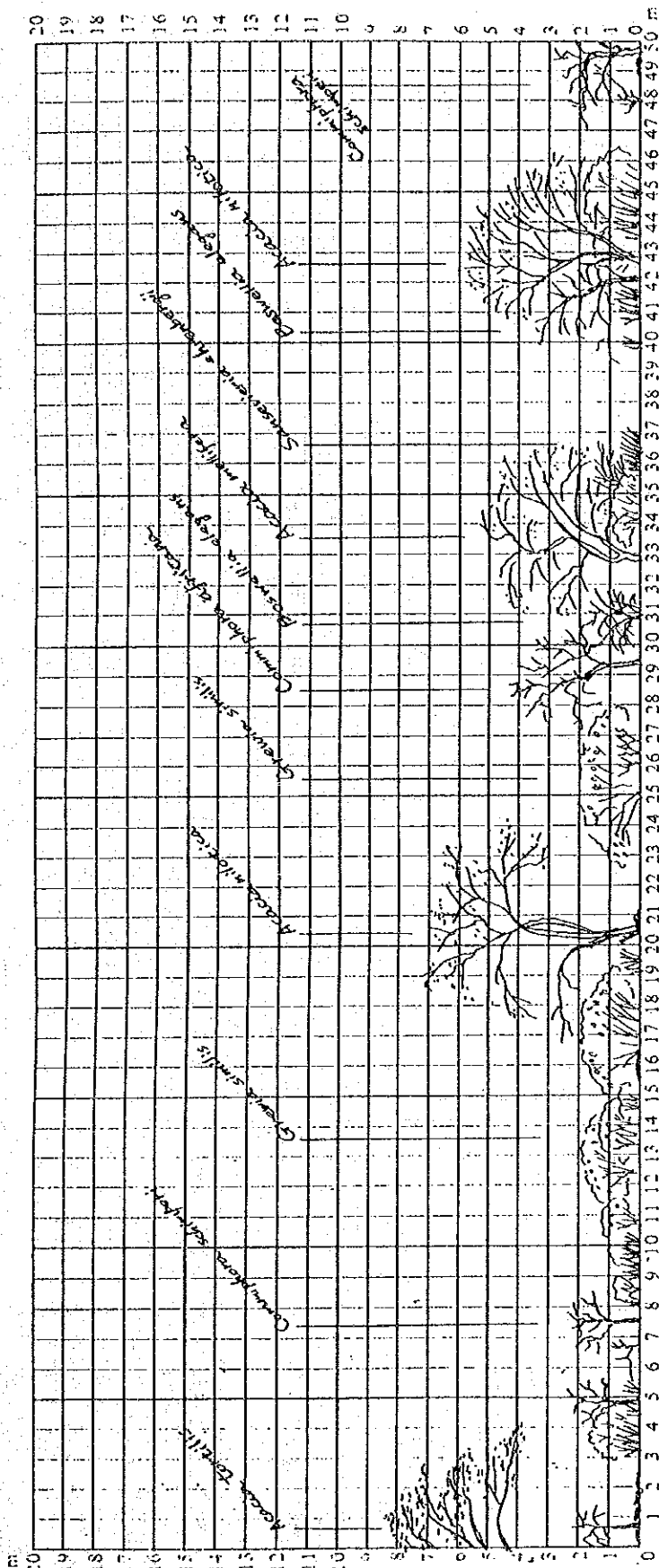
PROFILE OF VEGETATION RESEARCH PLOT

St (m)	Plot No.	3
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PROFILE OF VEGETATION RESEARCH PLOT

St (m <sup>2</sup> )	Plot No.	5
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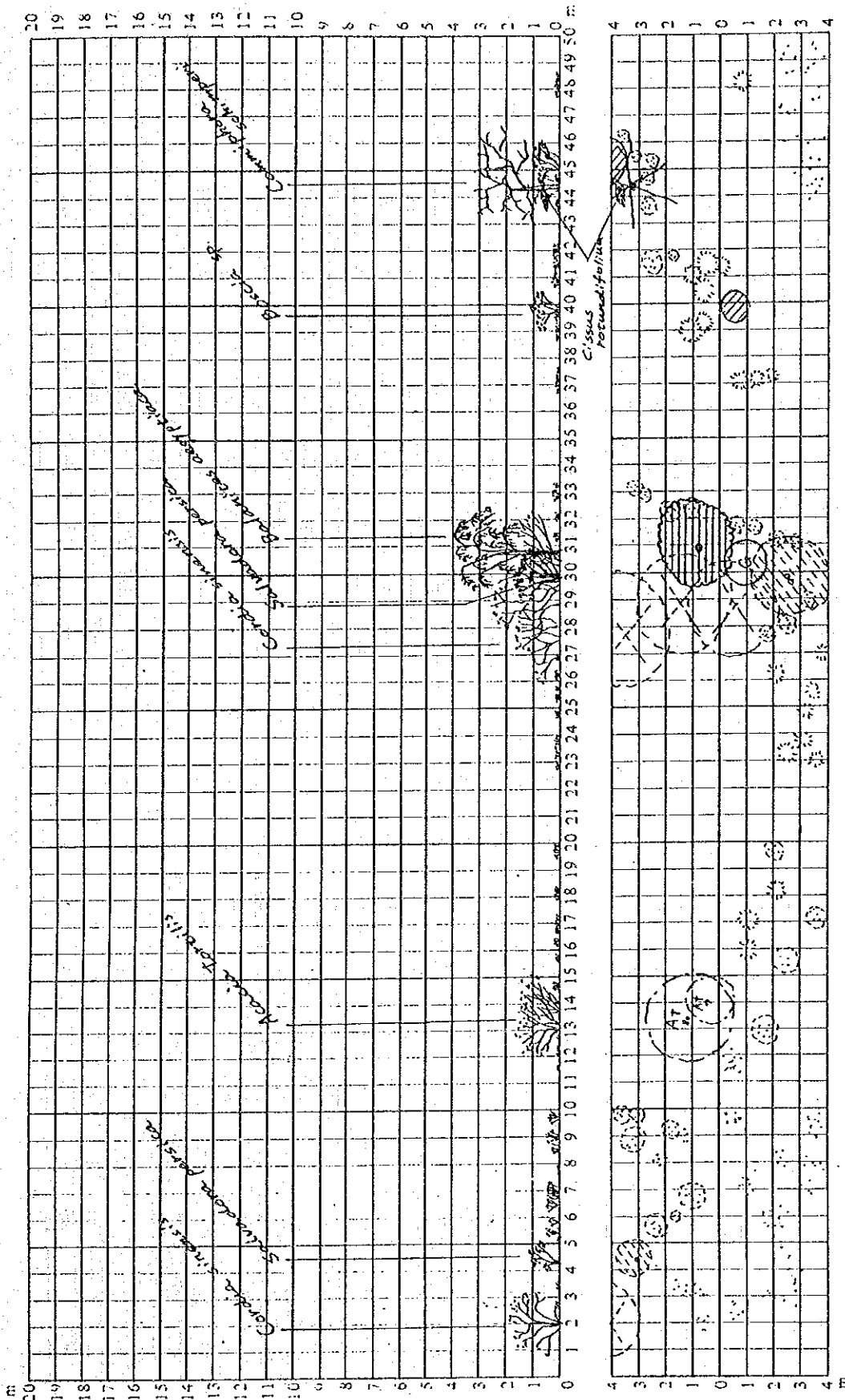
- Commiphora schimperi
- Grewia similis
- Acacia nilotica
- Sansevieria ehrenbergii
- Euphorbia conata
- Boswellia elegans
- Cissus rotundifolia





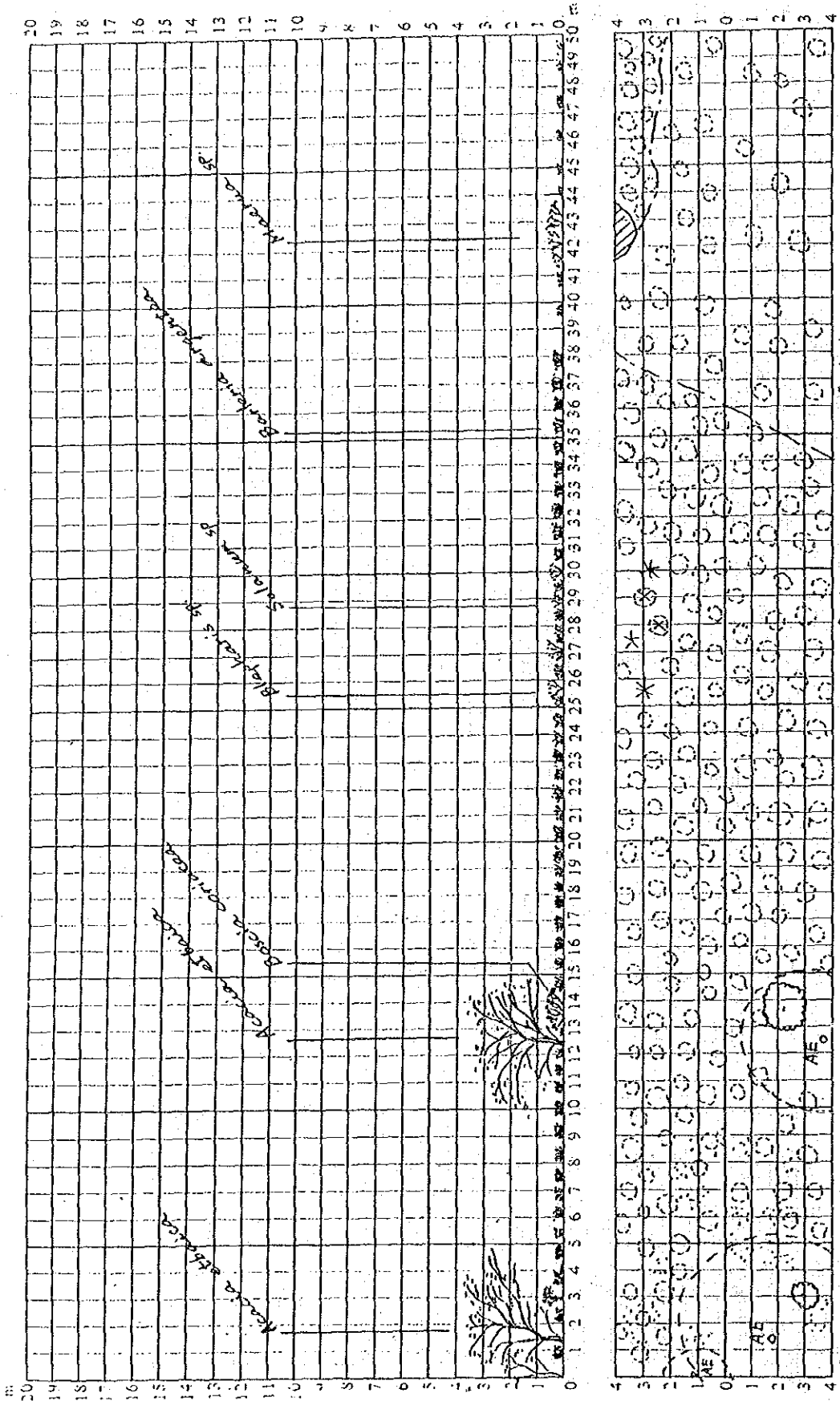
PROFILE OF VEGETATION RESEARCH PLOT

St (S2) Plot No. 27



PROFILE OF VEGETATION RESEARCH PLOT

Steg)~Sw Plot No. 25

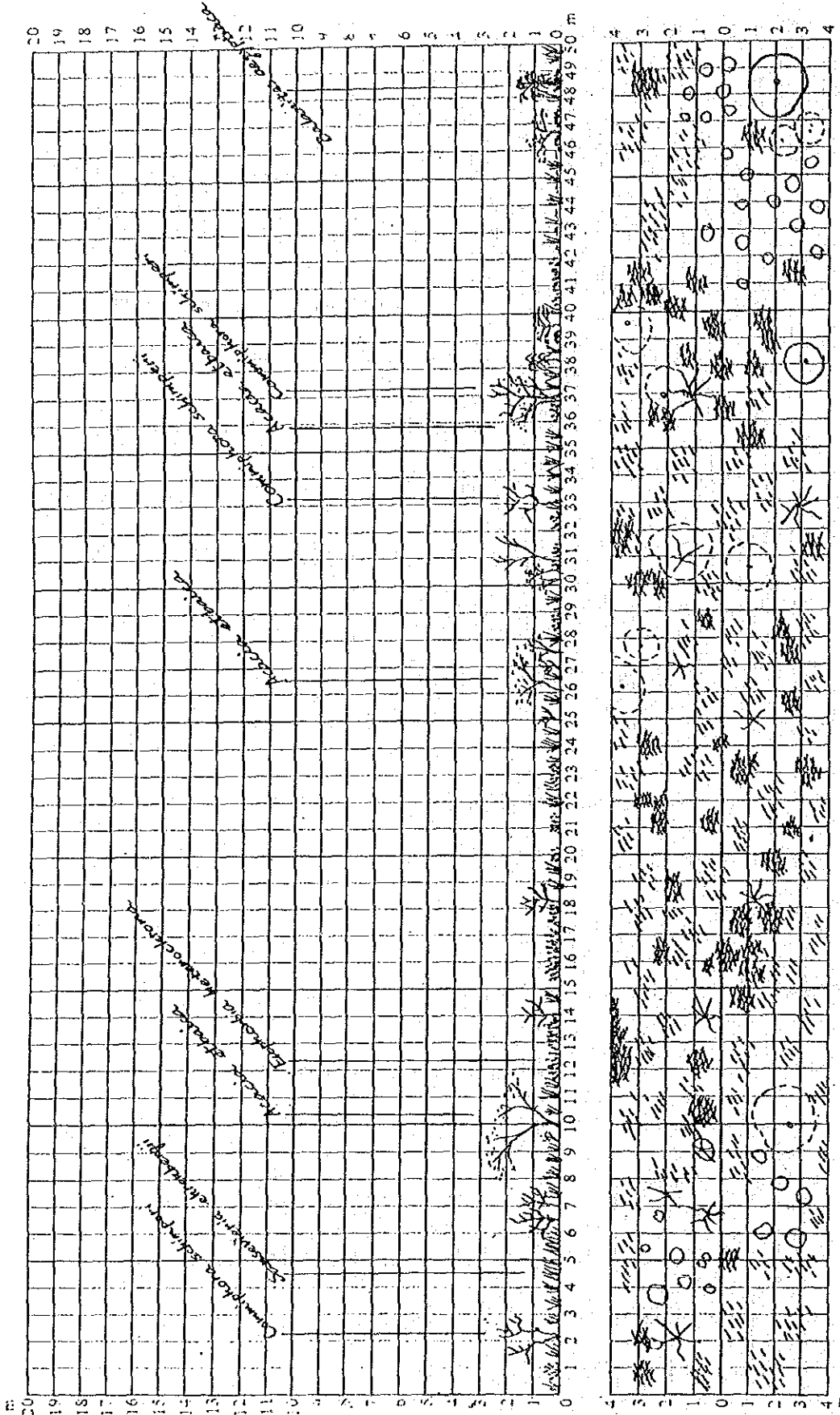


(AE) Acacia etbaica (B) Boscia coriacea (C) Blepharis sp. (D) Solanum sp.  
 (E) Maerua emini  
 Barleria sp. h: 0.7-0.8 m p.c.V: 10-20%  
 Barleria sp. h: 0.3-0.5 m p.c.V: 30-40%



PROFILE OF VEGETATION RESEARCH PLOT

SW Plot No. 13



X *Commiphora schimperi* (○) *Acacia ethiatica* ⊗ *Asparagus sp.* ≡ *Sesuvium ehrenbergii* ⊕ *Euphorbia heterochroma* ○ unknown

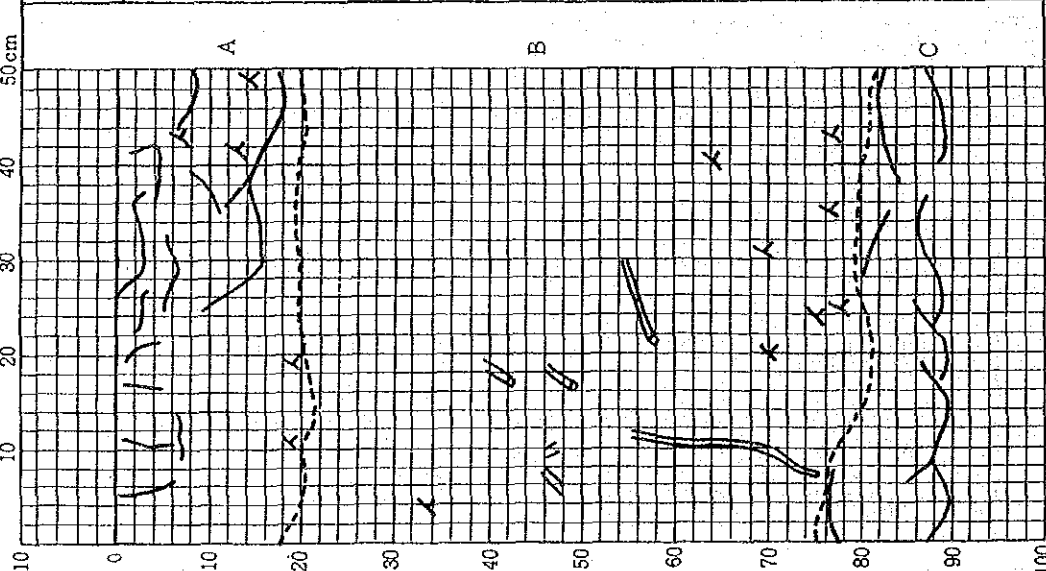
代表的土壌断面図

内 容

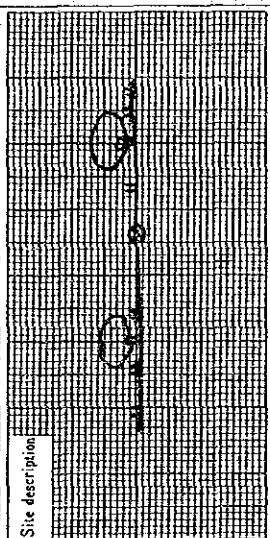
土 壌 型	プロットNo.
ニトソルス	11
カンビソルス	17
バーチソルス	M-8
レンジナス	1
リソソルス	K-2
フルビソルス	28

No. 11  
Type of soil  
Nitosols

Date August 25, 1987  
Location Flatland of Savanna  
Altitude 770 m  
Inclination 1°  
Direction S  
Parent material Limestone  
Residual/Colluvial Residual Soil



Horizon	Thickness (cm)	Thickens Border Condition	Color	Humus	Texture	Structure	Gravel	Hardness	Moisture	Leaching Mycorrhiza Accumulation	Root		Remarks	
											Herb	Ligneous		
A	17~21		Dry 10R 3/6 Wet 10R 3/4	Scanty	CL	Blocky	-	Very firm	Dry	-	-	Common	Common	6.5
B	58~62		Dry 10R 3/6 Wet 10R 3/4	-	CL	Massive	-	Induraz	Dry	-	-	Common	Common	7.0
C	10+					Gravel horizon								



No. 17  
Type of soil  
Cambisols

Date August 31, 1987

Location Pediment

Inclination 10°

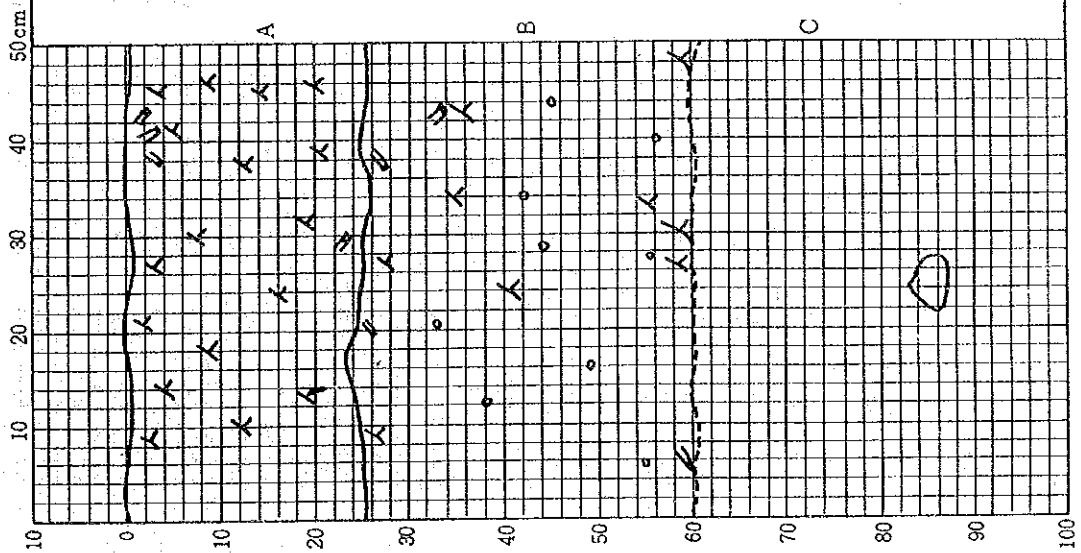
Direction SE

Altitude 1,040m

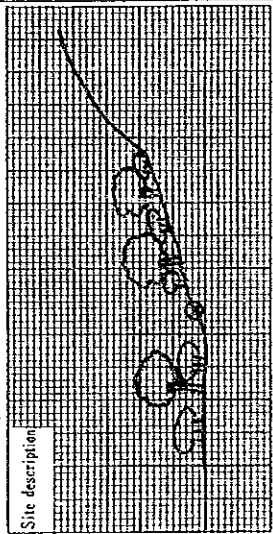
Residual/Colluvial  
Colluvial Soil

Parent material  
Metamorphic rock

Surveyor



Horizon	Thickness (cm)	Thinness Border Condition	Color	Humus	Texture	Structure	Gravel	Hardness	Moisture	Leaching Mycorrhizae Accumulation	Root		Remarks
											Herb	Lignaceous pH	
A	23~26	Abrupt	10R 2/3	Abundant	L	Crumb	—	Firm	Moist	—	Many	Common	6.1
B	34~37	Gradual	Dry 2.5YR4/8 Wet 10R 3/4	Common	L	Granular	Few	Indurate	Dry	—	Common	Common	6.6
C	25+	Gradual	Dry 2.5YR5/8 Wet 10R 3/3	Sandy	L	Massive	—	Indurate	Dry	—	—	—	7.3



No. M-8  
Type of soil Vertisols

Date February 9, 1987 Location Flatland of riverine savanna (waterlogged in the rainy season) Inclination 0 Direction

Altitude 625 m Residual/Colluvial Alluvial bed Parent material Alluvial bed Surveyor

Horizon	Thickness (cm)	Border Condition	Color	Humus	Texture	Structure	Cravel	Hardness	Moisture	Letching Accumulation	Root		Remarks	
											Herb	Lignaceous		
A1	10		Dry 10YR 3/3 Wet 10YR 2/3	Abundant	C	Single grain	-	Friable	Dry	-	-	Common	Common	-
A2	60+	Gradual	Dry 10YR 2/3 Wet 2.5YR 2/3	Abundant	C	Nutty, Blocky	-	Indurated	Dry	-	-	Common	Common	9.1

Site description

Description  
In the southwestern part of the savanna. Blackish brown clayey soil.  
A1 horizon is loosely deposited and is dark brown but with a stronger tinge of brown.  
A2 horizon is cracked aggregates of clod. The profile is glossy. Gramineous vegetation is seen.

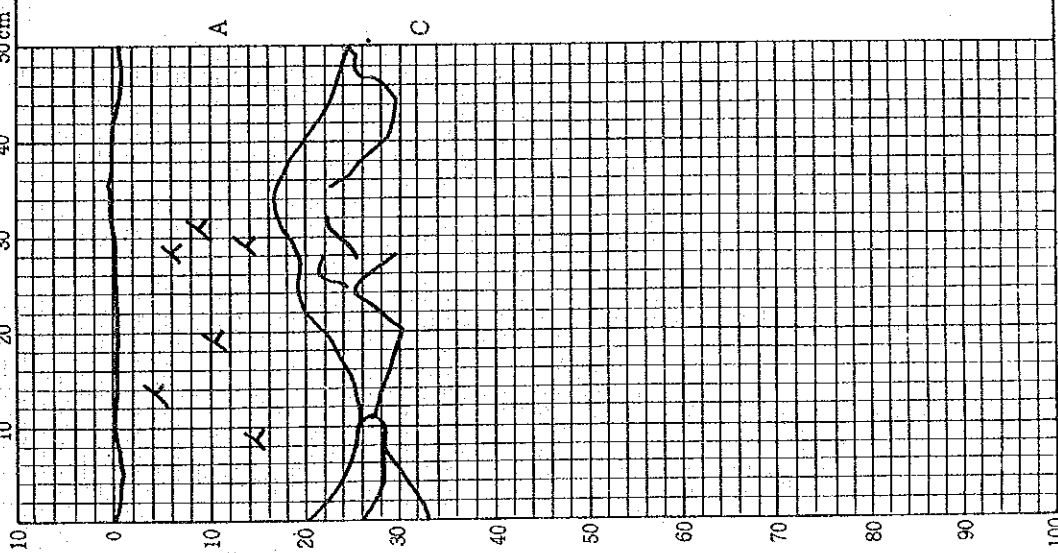


No. 1  
Type of soil  
Rendzinas

Date August 19, 1987 Location Micro relief of savanna Incline 2 ~ 3° Direction NW

Altitude 740 m Residual/Colluvial Limestone Parent material Limestone Surveyor

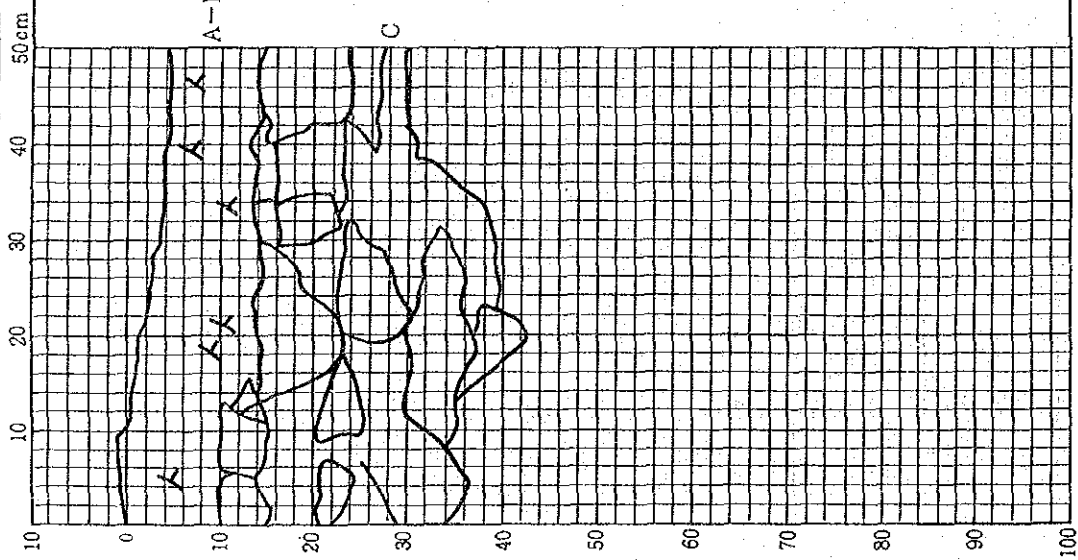
Horizon	Thickness (cm)	Border Condition	Color	Humus	Texture	Structure	Gravel	Hardness	Moisture	Leaching Accumulation	Root		Remarks
											Herb	Lignaceous pH	
A	15~25	Dry 7.5YR5/6 Wet Abrupt 7.5YR4/4		Common	SiL	Single grain, granular	—	Indurate	Dry	—	Common	8.1	
C	15+					Limestone rock							



Site description  
Description  
0.5 to 1.0 cm of the upper portion of A horizon is powdery.  
A horizon is broken angularly and the structure is of single grain and light granular. Grassland.

No. K-2  
Type of soil Lithosols

Date September 9, 1987 Location Gentle slope of hill Inclination 8° Direction SW  
Altitude 840 m Residual/Colluvial Residual soil Parent material Metamorphic rock



Horizon	Thickness (cm)	Border Condition	Color	Humus	Texture	Structure	Gravel	Hardness	Moisture	Leaching Accumulation	Root		Remarks	
											Mycorrhizae	Lignin		
A-B	10		Dry 2.5YR4/8 Wet Abrupt 2.5YR4/4	Scanty	SL	Single grain granular	Frequent	Firm	---	---	---	Common	6.6	
C	40+					Rock								

Site description

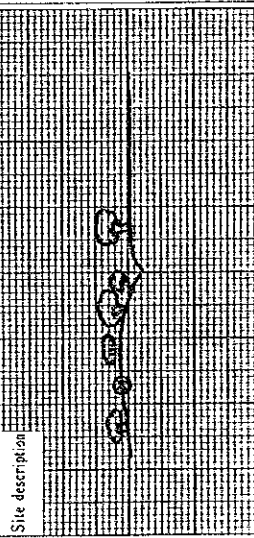
Description  
A horizon is thin and reaches to rock with 10 cm.  
The surface is washed away and exposed with no humus therein.  
Cactuses are densely populated.

No. 28  
Type of soil Fluvisols

Date September 9, 1987 Location Riverine flatland Inclination 0 Direction  
Altitude 645 m Residual/Colluvial Fluvial Parent material Alluvial bed Surveyor

Horizon	Thickness (cm)	Border Condition	Color	Humus	Texture	Structure	Gravel	Hardness	Moisture	Leaching Accumulation	Root		Remarks
											Herb	Ligneous	
IA	20	Dry 7.5YR 4/3 Wet 7.5YR 3/4	Common	SL	Single grain	-	Very firm	Dry	-	-	Common	-	8.2
IIC	10	Dry 7.5YR 6/1 Wet 7.5YR 4/1	-	S	Massive	-	Indurate	Dry	-	-	Common	-	-
IIIA	5	Dry 7.5YR 4/4 Wet 7.5YR 3/3	Common	CL	Massive	-	Indurate	Dry	-	-	-	-	8.0
IVC	10	Dry 7.5YR 6/2 Wet 7.5YR 4/2	-	S	Massive	-	Indurate	Dry	-	-	Common	-	-
VA	20	Dry 7.5YR 4/6 Wet 7.5YR 3/3	Common	CL	Massive	-	Indurate	Dry	-	-	Common	-	7.6
VIC	20	Dry 7.5YR 6/2 Wet 7.5YR 4/2	-	S	Massive	-	Indurate	Dry	-	-	Common	-	-
VIIC	15+	Dry 7.5YR 5/6 Wet 7.5YR 3/4	-	S	Massive	-	Indurate	Dry	-	-	-	-	7.4

Site description	Description
	Suspended farmland. Cotton and maize are grown in the area. Solanaceae is also grown. IIC, IVC, VIC, VIIC are fine sand horizons.

