

Quantitative data extracted from Jabalín lexicons

The following tables include quantitative data related to Arabic verbal morphology that have been extracted from the Jabalín lexicons.

	No. lemmas	No. roots	% lemmas/root
Triliteral	14,597	3,229	4.52
Quadriliteral	855	477	1.79
TOTAL	15,452	3,706	-

TABLE 1 Number of lemmas and roots in the Jabalín lexicon and percentage of lemmas per root

Total no. lemmas	No. forms/lemma	Total forms
15,452	109	1,684,268

TABLE 2 Number of inflected verbs in the Jabalín lexicon

Root	Pattern	Verb occurrences	% Roots
Trilateral	Iau	1386	42.9
	Iai	1058	32.8
	Iaa	579	17.9
	Iuu	283	8.8
	Iia	936	29.0
	Iii	16	0.5
	II	1811	56.1
	III	996	30.8
	IV	2060	63.8
	V	1745	54.0
	VI	856	26.5
	VII	513	15.9
	VIII	1345	41.6
	IX	67	2.1
	X	831	25.7
Quadrilateral	XI	59	1.8
	XII	47	1.5
	XIII	7	0.2
	XIV	-	-
	XV	3	0.1
Quadrilateral	QI	399	83.6
	QII	385	80.7
	QIII	5	1.0
	QIV	66	13.8

TABLE 3 Frequency of verbal patterns

Pattern	Al-Qahtani	McCarthy & Prince	Danks	Jabalín lexicon
I	2,512	2,569	2,523	4,258
II	1,479	1,398	1,416	1,811
III	455	463	465	996
IV	926	951	938	2,060
V	940	1,025	953	1,745
VI	375	394	389	856
VII	251	260	267	513
VIII	590	621	606	1,345
IX	18	18	19	67
X	393	389	395	831
XI	2	2	2	59
XII	7	7	7	47
XIII	-	-	-	7
XIV	1	2	1	-
XV	-	-	-	3
TOTAL			7,981	
QI	296	-	294	399
QII	111	-	131	385
QIII	1	-	1	5
QIV	8	-	8	66
TOTAL			434	

TABLE 4 Comparative table of pattern frequencies al-Qahtani, McCarthy and Prince, Danks¹ and Jabalín

¹ Danks, W. (2011). *The Arabic Verb: Form and Meaning in the Vowel-Lengthening Patterns*. Amsterdam: John Benjamins Publishing Company.

González Martínez, Alicia, (2013) "A computational model of Modern Standard Arabic verbal morphology base don generation", *PhD Dissertation, Universidad Autónoma de Madrid*.

Roots	Pattern	Verb occurrences
Trilateral without Iau, Iai, Iaa, Iuu, Iia, Iii	II	86
	III	38
	IV	106
	V	72
	VI	27
	VII	16
	VIII	48
	IX	3
	X	26
	XI	3
	XII	1
	XIII	1
	Quadrilateral without QI	QII
QIII		2
QIV		33

TABLE 5 Frequency of verbs from roots without any pattern I and QI

Root	No. patterns/root	No. roots	% Roots
Trilateral	1	429	13.3
	2	461	14.3
	3	177	5.5
	4	487	15.1
	5	558	17.3
	6	443	13.7
	7	310	9.6
	8	210	6.5
	9	101	3.1
	10	38	1.2
	11	11	0.3
	12	5	0.2
Quadrilateral	1	118	24.7
	2	342	71.7
	3	15	3.1
	4	2	0.4

TABLE 6 Frequency of roots according to number of patterns per root

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Roots	Pattern	Verb occurrence
	Iau	189
	Iai	101
	Iaa	13
	Iuu	8
	Iia	66
Trilateral roots	II	164
that meet	III	80
second rad. = third rad.	IV	171
	V	133
	VI	84
	VII	53
	VIII	137
	X	100
Quadrilateral roots	QI	158
that meet	QII	149
first+second rad. = third+fourth rad.		

TABLE 7 Frequency of verbs from geminated roots

consonant		Pattern Iaa						Patterns Iau, Iai, Iuu, Iia, Iii					
		first radical		second radical		third radical		first radical		second radical		third radical	
		abs	%	abs	%	abs	%	abs	%	abs	%	abs	%
ب	b	33	5.7	26	4.5	25	4.3	95	3.9	149	6.2	146	6.0
ف	f	41	7.1	22	3.8	19	3.3	110	4.5	115	4.7	130	5.4
م	m	56	9.7	20	3.5	22	3.8	113	4.7	135	5.6	174	7.2
ل	l	36	6.2	35	6.0	29	5.0	82	3.4	161	6.6	202	8.3
ر	r	37	6.4	38	6.6	45	7.8	126	5.2	227	9.4	253	10.4
ن	n	59	10.2	16	2.8	15	2.6	204	8.4	93	3.8	129	5.3
ت	t	2	0.3	6	1.0	5	0.9	27	1.1	68	2.8	32	1.3
د	d	29	5.0	27	4.7	15	2.6	63	2.6	91	3.8	130	5.4
س	s	33	5.7	14	2.4	12	2.1	113	4.7	84	3.5	95	3.9
ز	z	19	3.3	14	2.4	6	1.0	58	2.4	76	3.1	47	1.9
ط	T	11	1.9	14	2.4	12	2.1	49	2.0	66	2.7	71	2.9
ض	D	12	2.1	14	2.4	7	1.2	35	1.4	47	1.9	40	1.7
ص	S	16	2.8	9	1.6	12	2.1	61	2.5	58	2.4	39	1.6
ظ	Z	4	0.7	1	0.2	3	0.5	6	0.2	13	0.5	12	0.5
ث	þ	2	0.3	1	0.2	5	0.9	28	1.2	31	1.3	33	1.4
ذ	ð	10	1.7	4	0.7	2	0.3	24	1.0	40	1.7	9	0.4
ش	X	34	5.9	13	2.2	8	1.4	98	4.0	75	3.1	58	2.4
ج	j	32	5.5	13	2.2	8	1.4	84	3.5	92	3.8	58	2.4
ك	k	20	3.5	9	1.6	9	1.6	94	3.9	71	2.9	44	1.8
ق	q	29	5.0	17	2.9	13	2.2	134	5.5	92	3.8	121	5.0
خ	x	12	2.1	19	3.3	22	3.8	105	4.3	40	1.7	26	1.1
غ	g	1	0.2	23	4.0	11	1.9	83	3.4	31	1.3	16	0.7
ح	H	6	1.0	58	10.0	76	13.1	132	5.5	54	2.2	62	2.6
ع	ç	4	0.7	64	11.1	116	20.0	161	6.6	67	2.8	84	3.5
ه	h	15	2.6	62	10.7	11	1.9	85	3.5	71	2.9	25	1.0
ء	c	3	0.5	25	4.3	54	9.3	85	3.5	24	1.0	38	1.6
و	w	20	3.5	8	1.4	5	0.9	158	6.5	216	8.9	167	6.9
ي	y	3	0.5	7	1.2	12	2.1	9	0.4	135	5.6	181	7.5
Total		566						2422					

TABLE 8 Frequency of guttural consonants in the three radical positions from Pattern Iaa and the rest of Patterns I.