

Table S1: List of identified pollen taxa in core LT1 from Lake Chad
(A: trees or shrubs; AL: trees, shrubs or lianas; Ap: parasitic shrubs; N: herbs; Nq: aquatic herbs; I: undifferentiated; F: ferns)

FAMILY	TAXON	HABIT
ACANTHACEAE	Hygrophila	Nq
ACANTHACEAE	Justicia anselliana-type	N
ALOACEAE	Aloe-type	N
AMARANTHACEAE	Aerva-type javanica	N
AMARANTHACEAE	Celosia argentea-type	N
AMARANTHACEAE/CHENOPODIACEAE	Amaranthaceae/Chenopodiaceae undiff.	N
ANACARDIACEAE	Lannea-type	A
ANISOPHYLLEACEAE	Anopyxis-type klaineana	A
ANTHERICACEAE	Chlorophytum-type	Nq
APIACEAE	Apiaceae undiff.	N
APOCYNACEAE	Adenium	A
APOCYNACEAE	Apocynaceae undiff.	AL
ASPARAGACEAE	Asparagus	AL
ASTERACEAE	Artemisia	I
ASTERACEAE	Asteraceae undiff.	N
ASTERACEAE	Vernoniae undiff.	I
BALANITACEAE	Balanites aegyptiaca-type	A
BIGNONIACEAE	Markhamia	A
BOMBACACEAE	Bombax buonopozense-type	A
BRASSICACEAE	Brassicaceae undiff.	N
BURSERACEAE	Commiphora africana-type	A
CAESALPINIACEAE	Cassia-type	I
CAESALPINIACEAE	Cassia-type italica	I
CAPPARIDACEAE	Cadaba-type	A
CAPPARIDACEAE	Capparis	A
CAPPARIDACEAE	Cleome-type	N
CAPPARIDACEAE	Maerua-type	A
CARYOPHYLLACEAE	Polycarpaea-type	N
COMBRETACEAE	Combretaceae undiff.	AL
COMBRETACEAE	Combretum-type	AL
CONVOLVULACEAE	Convolvulaceae undiff.	N
CYPERACEAE	Cyperaceae undiff.	Nq
ERICACEAE	Ericaceae undiff.	A
EUPHORBIACEAE	Acalypha	I
EUPHORBIACEAE	Alchornea	A
EUPHORBIACEAE	Bridelia ferruginea type	A
EUPHORBIACEAE	Euphorbiaceae undiff.	I
EUPHORBIACEAE	Euphorbia-type	I
EUPHORBIACEAE	Flueggea virosa-type	A
EUPHORBIACEAE	Macaranga-type	A
EUPHORBIACEAE	Phyllanthus-type	I
EUPHORBIACEAE	Uapaca	A
FABACEAE	Aeschynomene	Nq
FABACEAE	Fabaceae undiff.	I
FABACEAE	Indigofera	I
FABACEAE	Tephrosia uniflora-type	N
HALORRHAGACEAE	Laurembergia tetrandra	Nq

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FAMILY	TAXON	HABIT
HYMENOCARDIACEAE	Hymenocardia acida-type	A
HYPERICACEAE	Hypericum	I
IRVINGIACEAE	Irvingia-type gabonensis	A
LAMIACEAE	Lamiaceae undiff.	N
LAMIACEAE	Leonotis-type	N
LAMIACEAE	Leucas-type	N
LOGANIACEAE	Anthocleista	A
LORANTHACEAE	Tapinanthus-type	Ap
LYTHRACEAE	Lawsonia-type inermis	A
MELIACEAE	Ekebergia-type capensis	A
MELIACEAE	Meliaceae undiff.	A
MENISPERMACEAE	Menispermaceae undiff.	AL
MIMOSACEAE	Acacia	A
MIMOSACEAE	Prosopis-type africana	A
MONOCOTYLEDONEAE	Monocotyledoneae undiff.	N
MORACEAE	Ficus	A
MORACEAE	Treulia africana-type	A
MYRISTICACEAE	Pycnanthus angolensis-type	A
MYRTACEAE	Syzygium-type guineense	A
NYMPHAEACEAE	Nymphaea lotus-type	Nq
OCHNACEAE	Lophira	A
OLEACEAE	Olea capensis-type	A
ONAGRACEAE	Onagraceae undiff.	Nq
PLANTAGINACEAE	Plantago	N
POACEAE	Poaceae undiff.	N
PODOCARPACEAE	Podocarpus	A
POLYGALACEAE	Polygala-type	N
POLYGONACEAE	Polygonum senegalense-type	Nq
PTERIDOPHYTA	Monoletes undiff.	F
PTERIDOPHYTA	Triletes undiff.	F
RHAMNACEAE	Ziziphus-type	A
RUBIACEAE	Anthospermum	I
RUBIACEAE	Catunaregam-type	A
RUBIACEAE	Hallea-type	A
RUBIACEAE	Ixora-type brachypoda	A
RUBIACEAE	Keetia-type gueinzii	AL
RUBIACEAE	Kohautia	N
RUBIACEAE	Morelia senegalensis	A
RUBIACEAE	Nauclea-type	A
RUBIACEAE	Pausinystalia-type	A
RUBIACEAE	Pavetta	A
RUBIACEAE	Rubiaceae undiff.	I
RUBIACEAE	Uncaria- type africana,	L
RUTACEAE	Zanthoxylum-type	A
SALVADORACEAE	Salvadora persica-type	A
SAPINDACEAE	Allophyllus	A
SAPINDACEAE	Aphania-type senegalensis	A

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FAMILY	TAXON	HABIT
SAPOTACEAE	Sapotaceae undiff.	A
SCROPHULARIACEAE	Scrophulariaceae undiff.	N
SCROPHULARIACEAE	Striga-type hermonthica	N
STERCULIACEAE	Mansonia altissima-type	A
TAMARICACEAE	Tamarix	A
TYPHACEAE	Typha	Nq
ULMACEAE	Celtis	A
URTICACEAE	Laportea-type aestuans	N
URTICACEAE	Urticaceae undiff.	N
VITACEAE	Cissus	I
ZYGOPHYLLACEAE	Zygophyllum simplex-type	N

Table S2

- (a) P_{ann} reconstructed estimates on the LT1 pollen sequence from Lake Chad, with lower uncertainties (DP_{ann} min) and upper uncertainties (DP_{ann} max); the uncertainties are given by the extreme (driest and wettest) analogues

Depth (cm)	Age (cal yr BP)	P_{ann}	DP_{ann} min	DP_{ann} max
LT10	5021	659.3458	319.3458	440.6542
LT15	5144	649.9002	309.9002	470.0998
LT20	5268	492.4496	162.4496	607.5504
LT25	5391	493.4698	163.4698	606.5302
LT30	5439	499.6579	169.6579	600.3421
LT35	5487	511.5637	181.5637	588.4363
LT41	5536	656.8151	316.8151	463.1849
LT45	5658	552.7285	222.7285	897.2715
LT50	5781	559.5326	229.5326	890.4674
LT55	5904	652.8396	312.8396	467.1604
LT60	6000	498.376	168.376	601.624
LT65	6097	728.5349	388.5349	721.4651
LT70	6194	733.425	393.425	716.575
LT75	6291	1023.4343	673.4343	743.5657
LT80	6387	731.5638	391.5638	718.4362
LT85	6484	742.7117	402.7117	707.2883
LT90	6581	535.4862	205.4862	584.5138
LT95	6678	742.9299	402.9299	707.0701

- (b) The five best modern analogues for each fossil pollen sample.

Depth (cm)	Age (cal yr BP)	1	2	3	4	5
LT10	5021	JM1	JM3	TOG93	JM4	TOG94
LT15	5144	JM1	JM3	JM4	TOG93	TOG49
LT20	5268	JM1	JM3	JM4	JM2	TOG94
LT25	5391	JM1	JM3	JM4	JM2	TOG94
LT30	5439	JM1	JM2	JM3	JM4	TOG94
LT35	5487	JM1	JM4	TOG93	JM3	JM2
LT41	5536	JM1	JM3	TOG49	JM4	TOG93
LT45	5658	JM1	JM4	JM2	JM3	TOG65
LT50	5781	JM1	JM3	JM4	JM2	TOG65
LT55	5904	JM1	JM3	JM4	TOG49	TOG94
LT60	6000	JM1	JM3	JM4	JM2	TOG93
LT65	6097	JM1	TOG49	JM4	JM3	TOG65
LT70	6194	JM1	TOG49	JM3	JM4	TOG65
LT75	6291	TOG49	JM1	TOG65	JM4	NIA35
LT80	6387	JM1	TOG49	JM4	JM3	TOG65
LT85	6484	TOG49	JM1	JM3	JM4	TOG65
LT90	6581	JM1	TOG49	JM4	JM3	JM2
LT95	6678	TOG49	JM1	JM4	JM3	TOG65

JM - samples from Chad; TOG - samples from Togo; NIA - samples from Nigeria