

Supporting Information

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Fig. S1. Map of Gabon with the location of Oguewa (Moyen Ogooué province), the village where the MO454 isolate was discovered.

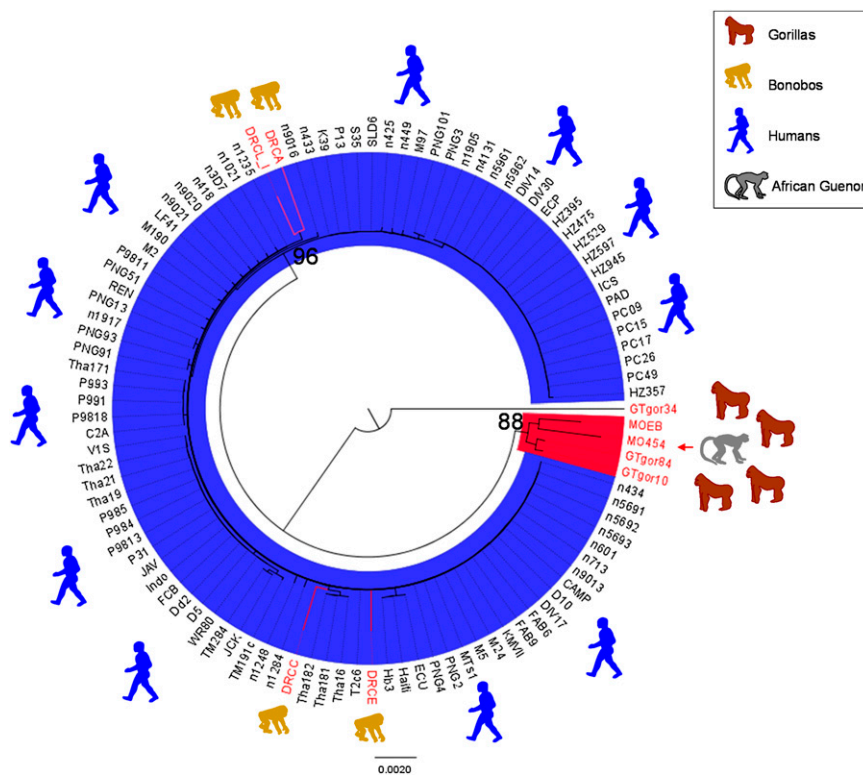


Fig. S2. Phylogenetic position of the *P. falciparum* mitochondrial sequences obtained from nonhuman primates (in red) with a panel of *P. falciparum* mitochondrial sequences obtained from humans collected all over the world (in blue). The human sequences are from Joy et al. (1), chosen to represent the worldwide diversity. The mitochondrial *P. falciparum* sequences from gorillas are from Liu et al. (2) and Prugnolle et al. (3). The ones from bonobos are from Krief et al. (4). The one from the guenon is from this study (MO454 isolate). Bootstrap values (in %) are indicated at the nodes. (Scale bar: 0.0020 substitutions per site.)

- Joy DA, et al. (2003) Early origin and recent expansion of *Plasmodium falciparum*. *Science* 300:318–321.
- Liu W, et al. (2010) Origin of the human malaria parasite *Plasmodium falciparum* in gorillas. *Nature* 467:420–425.
- Prugnolle F, et al. (2010) African great apes are natural hosts of multiple related malaria species, including *Plasmodium falciparum*. *Proc Natl Acad Sci USA* 107:1458–1463.
- Krief S, et al. (2010) On the diversity of malaria parasites in African apes and the origin of *Plasmodium falciparum* from Bonobos. *PLoS Pathog* 6:e1000765.

Table S1. Characteristics of the microsatellite loci used to genotype the human and nonhuman primate *Plasmodium falciparum* isolates

Locus	Code	Cytologic location	Repeat motif	GenBank accession no.	Ref.
POLYa	1	Chr. 4	(TAA)	G37809	5
TA60	2	Chr. 13	(TAA)	G38876	5
ARA2	3	Chr. 11	(TAA)	G37848	5
Pfg377	4	Chr. 12	(TAA)	G37851	5
PfPK2	5	Chr. 12	(ATT)	G37852	5
TA87	6	Chr. 6	(CAA) (TAA)	G38838	5
TA109	7	Chr. 6	(ACT)	G38842	5

5. Anderson TJ, et al. (2000) Microsatellite markers reveal a spectrum of population structures in the malaria parasite *Plasmodium falciparum*. *Mol Biol Evol* 17:1467–1482.

Table S2. Characteristics of the monoclonal human *P. falciparum* isolates collected in Central Africa and genotyped at seven microsatellites and 96 SNP markers, with their geographical coordinates, total sample size, and monoinfected sample size

Country	Site	Latitude	Longitude	Monoinfected sample size	Years of collection
Cameroon	Simbock/Tibati	05° 15' 20" N	11° 41' 55" E	33 (18)*	2003
Congo Brazzaville	Brazzaville, Gamboma, Pointe Noire, Oyo	00° 13' 44" S	15° 49' 45" E	14 (14)	2005
Gabon	Near Kango	00° 08' 49" N	10° 04' 50" E	24 (11)	2008

*The first number corresponds to the number of isolates that were characterized at the seven microsatellite markers. Between parentheses is the number of isolates that were genotyped at the 96 SNPs.

Table S3. List and characteristics of the 96 single nucleotide polymorphisms (SNPs) genotyped in the primate and human *P. falciparum* isolates

SNP name	Chromosome location	Chromosome position, bp	Coding region	Nonsynonymous SNP*
CombinedSNP.MAL1.1303	1	161748	Yes	Yes
CombinedSNP.MAL1.1698	1	248536	No	Null
CombinedSNP.MAL1.2718	1	497763	Yes	Yes
CombinedSNP.MAL1.3206	1	531995	Yes	Yes
CombinedSNP.MAL1.3532	1	552009	No	Null
CombinedSNP.MAL2.1214	2	69773	No	Null
CombinedSNP.MAL2.1484	2	115160	No	Null
CombinedSNP.MAL2.1674	2	161537	No	Null
CombinedSNP.MAL2.1949	2	233720	No	Null
CombinedSNP.MAL2.3402	2	617743	Yes	Yes
CombinedSNP.MAL2.3551	2	660994	Yes	Yes
CombinedSNP.MAL2.4573	2	848536	Yes	Yes
CombinedSNP.MAL2.4576	2	848602	Yes	Yes
CombinedSNP.MAL3.1167	3	93156	No	Null
CombinedSNP.MAL3.2220	3	308854	No	Null
CombinedSNP.MAL3.2574	3	382195	Yes	Null
CombinedSNP.MAL3.3213	3	511564	Yes	Yes
CombinedSNP.MAL3.4573	3	889290	No	Null
CombinedSNP.MAL4.5386	4	782790	Yes	Yes
CombinedSNP.MAL4.6138	4	933313	Yes	Yes
CombinedSNP.MAL4.7161	4	1053149	No	Null
CombinedSNP.MAL5.891	5	150460	No	Null
CombinedSNP.MAL5.1380	5	269459	Yes	Yes
CombinedSNP.MAL5.2309	5	482703	No	Null
CombinedSNP.MAL5.3296	5	706171	Yes	Yes
CombinedSNP.MAL5.3637	5	810754	No	Null
CombinedSNP.MAL5.3953	5	958435	Yes	Yes
CombinedSNP.MAL5.4072	5	1010769	No	Null
CombinedSNP.MAL6.1877	6	490306	No	Null
CombinedSNP.MAL6.1882	6	493449	Yes	Yes
CombinedSNP.MAL6.2294	6	577117	Yes	Yes
CombinedSNP.MAL6.2893	6	708985	No	Null
CombinedSNP.MAL6.3750	6	842792	Yes	Yes
CombinedSNP.MAL6.4098	6	967410	Yes	Yes
CombinedSNP.MAL6.4671	6	1187118	Yes	Yes
CombinedSNP.MAL7.891	7	80007	No	Null
CombinedSNP.MAL7.1561	7	145765	Yes	Null
CombinedSNP.MAL7.1980	7	225283	Yes	Yes
CombinedSNP.MAL7.2307	7	307517	No	Null
CombinedSNP.MAL7.6292	7	899604	No	Null
CombinedSNP.MAL7.6500	7	940111	Yes	Null
CombinedSNP.MAL7.6679	7	985641	Yes	Yes
CombinedSNP.MAL7.8102	7	1363689	Yes	Yes
CombinedSNP.MAL8.1900	8	265780	Yes	Yes
CombinedSNP.MAL8.2514	8	423288	Yes	Null
CombinedSNP.MAL8.3796	8	562745	Yes	Yes
CombinedSNP.MAL8.4660	8	884477	Yes	Yes
CombinedSNP.MAL8.5093	8	1006923	Yes	Yes
CombinedSNP.MAL8.5932	8	1230413	No	Null
CombinedSNP.MAL8.6021	8	1260630	No	Null
CombinedSNP.MAL9.1605	9	241196	Yes	Yes
CombinedSNP.MAL9.2173	9	417445	No	Null
CombinedSNP.MAL9.2899	9	662515	No	Null
CombinedSNP.MAL9.2977	9	689167	Yes	Yes
CombinedSNP.MAL9.3236	9	771381	Yes	Yes
CombinedSNP.MAL9.4543	9	1183700	No	Null
CombinedSNP.MAL9.4694	9	1203641	Yes	Null
CombinedSNP.MAL9.4772	9	1205590	Yes	Yes
CombinedSNP.MAL10.4242	10	1047298	Yes	Null
CombinedSNP.MAL10.4293	10	1056776	No	Null
CombinedSNP.MAL10.4821	10	1183501	Yes	Yes
CombinedSNP.MAL10.5509	10	1378863	Yes	Null

Table S3. Cont.

SNP name	Chromosome location	Chromosome position, bp	Coding region	Nonsynonymous SNP*
CombinedSNP.MAL10.6506	10	1442930	No	Null
CombinedSNP.MAL11.2867	11	580184	Yes	Null
CombinedSNP.MAL11.3166	11	657349	Yes	Yes
CombinedSNP.MAL11.5271	11	1292301	Yes	Yes
CombinedSNP.MAL12.2258	12	95702	Yes	Yes
CombinedSNP.MAL12.2562	12	200440	Yes	Null
CombinedSNP.MAL12.2609	12	217434	Yes	Yes
CombinedSNP.MAL12.2935	12	332820	Yes	Yes
CombinedSNP.MAL12.3474	12	532704	Yes	Yes
CombinedSNP.MAL12.3648	12	606969	No	Null
CombinedSNP.MAL12.3752	12	646259	Yes	Null
CombinedSNP.MAL12.5831	12	1162016	Yes	Yes
CombinedSNP.MAL12.9166	12	1995202	Yes	Yes
CombinedSNP.MAL13.776	13	92674	Yes	Yes
CombinedSNP.MAL13.808	13	103054	Yes	Yes
CombinedSNP.MAL13.1518	13	256929	No	Null
CombinedSNP.MAL13.1978	13	430054	No	Null
CombinedSNP.MAL13.2283	13	512792	Yes	Yes
CombinedSNP.MAL13.2992	13	815532	No	Null
CombinedSNP.MAL13.3251	13	901094	Yes	Yes
CombinedSNP.MAL13.3419	13	942637	Yes	Null
CombinedSNP.MAL13.4803	13	1399233	Yes	Null
CombinedSNP.MAL13.5081	13	1512443	Yes	Yes
CombinedSNP.MAL13.5481	13	1624489	Yes	Yes
CombinedSNP.MAL13.5880	13	1760453	Yes	Yes
CombinedSNP.MAL13.7227	13	2158308	Yes	Yes
CombinedSNP.MAL13.7598	13	2306330	Yes	Yes
CombinedSNP.MAL13.8065	13	2465780	Yes	Yes
CombinedSNP.MAL13.8177	13	2502209	No	Null
CombinedSNP.MAL14.1105	14	146706	No	Null
CombinedSNP.MAL14.1712	14	406021	Yes	Yes
CombinedSNP.MAL14.1774	14	417069	No	Null
CombinedSNP.MAL14.1943	14	480286	No	Null
CombinedSNP.MAL14.9817	14	3153424	Yes	Yes

*"Yes" means that the nucleotide mutation induces an amino acid change. "Null" means that it does not, either because it is not located in a coding region or because it is a synonymous polymorphism.

Table S4. Parasite sequences used in Figs. 1 and 4 (with asterisk)

Parasite	Host	GenBank accession no. for Figs. 1 and 4 (with asterisk)
<i>P. coatneyi</i>	Asian Old World Monkey	EU400407
<i>P. cynomolgi</i>	Asian Old World Monkey	AY800108
<i>P. fieldi</i>	Asian Old World Monkey	AF069615
<i>P. fragile</i>	Asian Old World Monkey	AY722799
<i>P. gonderi</i>	African Old World Monkey	AY800111
<i>P. hylobati</i>	Asian Old World Monkey	AF069618
<i>P. inui</i>	Asian Old World Monkey	EU400413
<i>P. knowlesi</i>	Asian Old World Monkey and Human	NC_007232
<i>P. simiovale</i>	Asian Old World Monkey	AY800109
<i>P. sp. DAJ-2004</i>	African Old World Monkey	AY800112
<i>P. simium</i>	New World Monkey	AY800110
<i>P. gallinaceum</i>	Bird	NC-008288
Psp. DRC-A	Bonobo	GQ355474*
Psp. DRC-L	Bonobo	GQ355475*
Le/cc	<i>Cercopithecus cephus</i>	JF923754
NGL/ccM	<i>Cercopithecus cephus</i>	JF923758
WN1859/cc	<i>Cercopithecus cephus</i>	JF923760
MO454	<i>Cercopithecus nictitans</i>	JF923762*
NGF/cn	<i>Cercopithecus nictitans</i>	JF923756
<i>P. billbrayi</i>	Chimpanzee	GQ355468*
<i>P. billcollinsi</i>	Chimpanzee	GQ355479
<i>P. gaboni</i>	Chimpanzee	FJ895307 update
<i>P. reichenowi</i>	Chimpanzee	AJ251941*
Ddgor3656	Gorilla	HM235366* + HM235367* + HM235368* + HM235194* + HM235195* consensus
Dsgor86	Gorilla	HM235202* + HM235203* + HM235292* consensus
GTgor10	Gorilla	HM235206* + HM235273* consensus
GTgor118	Gorilla	HM235211* + HM235369* + HM235370* consensus
GTgor34	Gorilla	HM235365* + HM235217* consensus
GTgor84	Gorilla	HM235219* + HM235314* consensus
LBgor314	Gorilla	HM235241* + HM235287* + HM235288* + HM235289* + HM235305* consensus
MOEB	Gorilla	JF923761*
Psp. Gorilla G2	Gorilla	HM235234* + HM235375* consensus
Psp. Gorilla G3	Gorilla	HM235216* + HM235376* consensus
<i>P. falciparum 3D7</i>	Human	AY282930*
<i>P. malariae</i>	Human	AF069624
<i>P. vivax</i>	Human	AY598140
Pf 102-1	Human	AY282924*
Pf 7G8	Human	AJ276847*
Pf I1	Human	AY588279
Pf LF4-1	Human	AY282975*
Pf M2	Human	AY282977*
Pf SLD6	Human	AY283007*
Pf Tha16	Human	AY283009*
<i>P. ovale</i>	Human Chimpanzee	AB182496
<i>P. ovale variant</i>	Human Chimpanzee	AB182497
17A2/ms	<i>Mandrillus sphinx</i>	JF923750
Bak/ms1	<i>Mandrillus sphinx</i>	JF923753
Bak/ms2	<i>Mandrillus sphinx</i>	JF923751
BETA/ms	<i>Mandrillus sphinx</i>	JF923749
MoA/msLe	<i>Mandrillus sphinx</i>	JF923752
MOLB	<i>Mandrillus sphinx</i>	JF923755
OLKM/msN	<i>Mandrillus sphinx</i>	JF923759
WN1743/mt	<i>Miopithecus talapoin</i>	JF923757
<i>Hepaticystis sp.</i>	<i>Papio nubensis</i>	AF069626