

Appendix A. Additional information on Myanmar elephants

In Myanmar, timber extraction camps are established following plans from officials of the Ministry of Forestry. Logging is then carried out by the Extraction Department of the Myanmar Timber Enterprise (MTE) according to a quota set by the Forest Department. Over the past 200 years, Myanmar has used elephants on a large scale in the timber industry, an activity that is still a vital part of Burmese economy today. Logging is carried out by the Myanmar Timber Enterprise (MTE) and they employ or subcontract around 4,000 elephants. The use of elephants by the MTE (around 4,000 working elephants today) allows for a policy of selective logging which, in theory at least, enables the MTE to extract valuable timber while leaving the forest otherwise intact. This can only be done with the help of working elephants. The main work of the elephants is to drag felled timber from the cutting area to roads or rivers from where it can be transported out of the jungle. Logging work is exceptionally hard, but strict regulations are designed to maintain the health of the animals. Myanmar has more elephant experts than any other Asian country and is a world leader in elephant management, veterinary care and mahout skills.

The elephants from both camps of the present study comprise wild-born and caught elephants as well as captive-born animals. The latter, however, are usually sired by wild bulls because elephants are released into the forest at night for foraging where cows meet with non-captive bulls. While we cannot completely rule out that some of the elephants in these camps originate from other areas in Myanmar (either directly or as descendants), Myanmar does not import elephants from other countries, and our population genetic data indicative of a single homogeneous population does not suggest admixture in our sample.

For more information see, for example, <http://www.myanmar-timber.com.mm/index.php/en/extraction-department/operation/157-log-extraction-in-myanmar>, <http://www.eleaid.com/country-profiles/elephants-burma/> and “*Giants on our hands*. Proceedings of the International Workshop on the Domesticated Asian Elephant, RAP publication 2002/30, FAO Regional Office for Asia and the Pacific, 2002”.

Pedigree/kinship information were available for 67 of our studied elephants. Of these, 34 were captive-born and 33 born in the wild.

Appendix B. Observed number of alleles (Na), observed (Ho) and expected (He) heterozygosities and P values for deviation from HWE in the two camps and the total population.

Locus	Myaing Hay Wun (n=35)				Taikkyi (n=26)				Total (n= 61)			
	Na	Ho	He	P	Na	Ho	He	P	Na	Ho	He	P
LA3	2	0.46	0.50	0.73	2	0.46	0.46	1.00	2	0.46	0.48	0.79
LA5	2	0.29	0.25	1.00	2	0.12	0.11	1.00	2	0.21	0.19	1.00
EmX2	2	0.49	0.50	1.00	2	0.42	0.42	1.00	2	0.46	0.47	1.00
EmX3	2	0.23	0.25	0.49	2	0.32	0.49	0.17	2	0.26	0.37	0.06
LafMS02	3	0.56	0.59	0.28	3	0.40	0.59	0.09	3	0.49	0.58	0.12
LafMS03	6	0.68	0.80	0.24	8	0.77	0.81	0.53	8	0.72	0.80	0.91
LA2	5	0.52	0.46	1.00	4	0.40	0.61	0.23	5	0.49	0.49	0.97
LafMS05	6	0.68	0.69	0.16	7	0.75	0.75	0.59	7	0.70	0.72	0.19
FH60	6	0.73	0.77	0.92	5	0.75	0.75	0.68	6	0.74	0.77	0.74
FH94	6	0.77	0.79	0.09	5	0.75	0.75	0.81	6	0.76	0.77	0.64
FH102	6	0.68	0.79	0.45	6	0.82	0.77	0.83	7	0.74	0.79	0.85
Mean	4.18	0.55	0.58	-	4.18	0.54	0.59	-	4.55	0.55	0.59	-
	±	±	±		±	±	±		±	±	±	
	1.85	0.17	0.20		2.08	0.22	0.20		2.27	0.19	0.19	

Appendix C. Accession numbers and information of the Asian elephant sequences downloaded from GenBank

Accession number	Haplotype	Sampling site	References
D83048		Japan?	Ozawa T., Hayashi S. & Mikhelson V.M. (1997) Phylogenetic position of mammoth and Steller's sea cow within Tethytheria demonstrated by mitochondrial DNA sequences. <i>Journal of Molecular Evolution</i> 44, 406-413.
KJ187772		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187773		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187774		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187775		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187776		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187777		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187778		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187779		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187780		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187781		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187782		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished

Accession number	Haplotype	Sampling site	References
KJ187783		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187784		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187785		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187786		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187787		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187788		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187789		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187790		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187791		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187792		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187793		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187794		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187795		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished

Accession number	Haplotype	Sampling site	References
KJ187796		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187797		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187798		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187799		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187800		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187801		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187802		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
KJ187803		Thailand	Dejchaisri S., Wajjwalku W., Thitaram C., Mahasawangkul S., Bhumpakphan N., Sukmasuang R., Lenstra J.A., Stout T.A.E. & Colenbrander B. (2014) Genetic Diversity of Asian Elephant (<i>Elephas maximus</i>) in Thailand. unpublished
JQ287724		Thailand	Suwannapoom C. & Chomdej S. (2012) Two Lineages of Thai Elephas (<i>Elephas maximus</i>) by mtDNA Cytochrome b Analysis in Thailand. unpublished
JQ287725		Thailand	Suwannapoom C. & Chomdej S. (2012) Two Lineages of Thai Elephas (<i>Elephas maximus</i>) by mtDNA Cytochrome b Analysis in Thailand. unpublished
JQ287726		Thailand	Suwannapoom C. & Chomdej S. (2012) Two Lineages of Thai Elephas (<i>Elephas maximus</i>) by mtDNA Cytochrome b Analysis in Thailand. unpublished
JQ287727		Thailand	Suwannapoom C. & Chomdej S. (2012) Two Lineages of Thai Elephas (<i>Elephas maximus</i>) by mtDNA Cytochrome b Analysis in Thailand. unpublished
AY589512	BC	India	Vydia T.N.C., Fernando P., Melnick D.J. & Sukumar R. (2005) Population genetic structure and conservation of Asian elephants (<i>Elephas maximus</i>) across India. <i>Animal Conservation</i> 8, 377-388.
AY589513	AI	India	Vydia T.N.C., Fernando P., Melnick D.J. & Sukumar R. (2005) Population genetic structure and conservation of Asian elephants (<i>Elephas maximus</i>) across India. <i>Animal Conservation</i> 8, 377-388.
AY589514	BW	India	Vydia T.N.C., Fernando P., Melnick D.J. & Sukumar R. (2005) Population genetic structure and conservation of Asian elephants (<i>Elephas maximus</i>) across India. <i>Animal Conservation</i> 8, 377-388.

Accession number	Haplotype	Sampling site	References
AY589515	AJ	India	Vydia T.N.C., Fernando P., Melnick D.J. & Sukumar R. (2005) Population genetic structure and conservation of Asian elephants (<i>Elephas maximus</i>) across India. <i>Animal Conservation</i> 8, 377-388.
AY589516	AK	India	Vydia T.N.C., Fernando P., Melnick D.J. & Sukumar R. (2005) Population genetic structure and conservation of Asian elephants (<i>Elephas maximus</i>) across India. <i>Animal Conservation</i> 8, 377-388.
AY365432	BA	India	Vydia T.N.C., Fernando P., Melnick D.J. & Sukumar R. (2005) Population genetic structure and conservation of Asian elephants (<i>Elephas maximus</i>) across India. <i>Animal Conservation</i> 8, 377-388.
AY365433	BB	India	Vydia T.N.C., Fernando P., Melnick D.J. & Sukumar R. (2005) Population genetic structure and conservation of Asian elephants (<i>Elephas maximus</i>) across India. <i>Animal Conservation</i> 8, 377-388.
AY245538		Borneo?	Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245802		Borneo?	Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245803			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245804			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245805			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245806			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245807			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245808			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245809			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.

Accession number	Haplotype	Sampling site	References
AY245810			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245811			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245812			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245813			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245814			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245815			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245816			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245817			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245818			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245819			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245820			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245821			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.

Accession number	Haplotype	Sampling site	References
AY245822			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245823			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245824			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245825			Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245826	BN		Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AY245827	AF	Borneo?	Fernando P., Vidya T.N.C., Payne J., Stuewe M., Davison G., Alfred R.J., Andau P., Bosi E., Kilbourn A. & Melnick A.J. (2003) DNA analysis indicates that Asian elephants are native to Borneo and are therefore a high priority for conservation. <i>Plos Biology</i> 1, 110-115.
AJ224733			Hauf J., Waddell P.J., Chalwatzis N., Joger U. & Zimmermann F.K. (2000) The complete mitochondrial genome sequence of the African elephant (<i>Loxodonta africana</i>), phylogenetic relationships of Proboscidea to other mammals and D-loop heteroplasmy. <i>Zoology</i> 102, 184-195.
AJ224734			Hauf J., Waddell P.J., Chalwatzis N., Joger U. & Zimmermann F.K. (2000) The complete mitochondrial genome sequence of the African elephant (<i>Loxodonta africana</i>), phylogenetic relationships of Proboscidea to other mammals and D-loop heteroplasmy. <i>Zoology</i> 102, 184-195.
AJ224735			Hauf J., Waddell P.J., Chalwatzis N., Joger U. & Zimmermann F.K. (2000) The complete mitochondrial genome sequence of the African elephant (<i>Loxodonta africana</i>), phylogenetic relationships of Proboscidea to other mammals and D-loop heteroplasmy. <i>Zoology</i> 102, 184-195.
FJ979435			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
FJ979436			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
FJ979437			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
FJ979438			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.

Accession number	Haplotype	Sampling site	References
FJ979619			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
FJ979620			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
FJ979621			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
FJ979622			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
FJ979623			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
FJ979624			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
FJ979625			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
FJ979626			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
FJ979627			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
FJ979628			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
FJ979629			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
FJ979630			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
FJ979631			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
FJ979632			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
FJ979633			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
FJ979634			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
FJ979635			Lei R., Brenneman R.A., Schmitt D.L. & Louis E.E. (2011) Genetic diversity in the North American captive Asian elephant collection. <i>Journal of Zoology</i> 286, 38 - 47.
EF585477	A	India?	Das D., Bhattacharya T. & Das P.J. (2007) Mitochondrial DNA Variation, Phylogeography and Social Organization of the Asian Elephant (<i>Elephas maximus</i>). unpublished

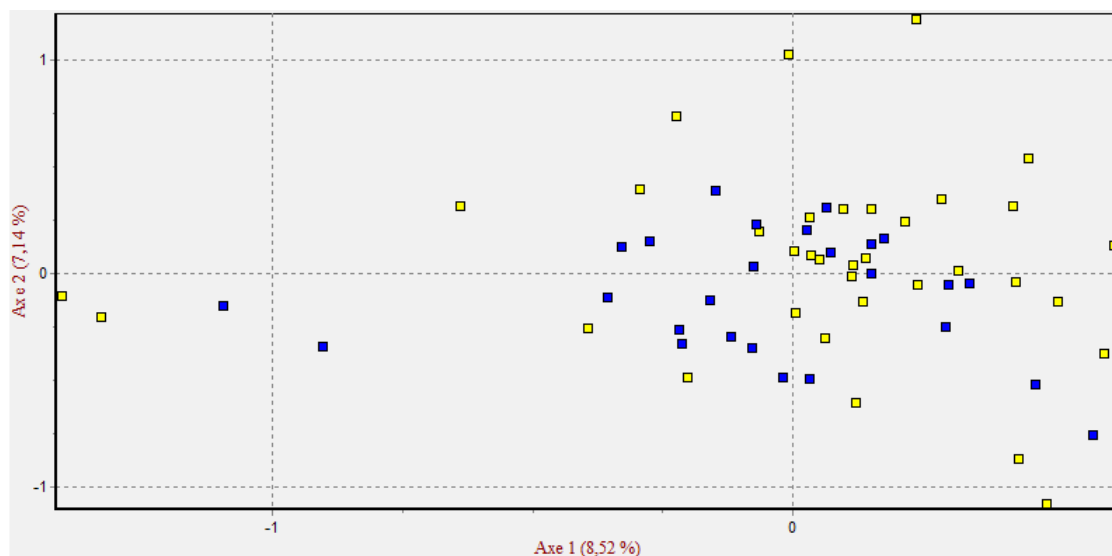
Accession number	Haplotype	Sampling site	References
EF585478	B	India?	Das D., Bhattacharya T. & Das P.J. (2007) Mitochondrial DNA Variation, Phylogeography and Social Organization of the Asian Elephant (<i>Elephas maximus</i>). unpublished
EF585479	C	India?	Das D., Bhattacharya T. & Das P.J. (2007) Mitochondrial DNA Variation, Phylogeography and Social Organization of the Asian Elephant (<i>Elephas maximus</i>). unpublished
EF585480	D	India?	Das D., Bhattacharya T. & Das P.J. (2007) Mitochondrial DNA Variation, Phylogeography and Social Organization of the Asian Elephant (<i>Elephas maximus</i>). unpublished
EF585481	E	India?	Das D., Bhattacharya T. & Das P.J. (2007) Mitochondrial DNA Variation, Phylogeography and Social Organization of the Asian Elephant (<i>Elephas maximus</i>). unpublished
EF585482	F	India?	Das D., Bhattacharya T. & Das P.J. (2007) Mitochondrial DNA Variation, Phylogeography and Social Organization of the Asian Elephant (<i>Elephas maximus</i>). unpublished
EF585483	H	India?	Das D., Bhattacharya T. & Das P.J. (2007) Mitochondrial DNA Variation, Phylogeography and Social Organization of the Asian Elephant (<i>Elephas maximus</i>). unpublished
HQ113847		Lao PDR	Ahlering M.A., Hedges S., Johnson A., Tyson M., Schuttler S.G., Eggert L.S. (2011) Genetic diversity, social structure, and conservation value of the elephants of the Nakai Plateau, Lao PDR, based on non-invasive sampling. <i>Conservation Genetics</i> 12, 413-422.
HQ113848		Lao PDR	Ahlering M.A., Hedges S., Johnson A., Tyson M., Schuttler S.G., Eggert L.S. (2011) Genetic diversity, social structure, and conservation value of the elephants of the Nakai Plateau, Lao PDR, based on non-invasive sampling. <i>Conservation Genetics</i> 12, 413-422.
HQ113849		Lao PDR	Ahlering M.A., Hedges S., Johnson A., Tyson M., Schuttler S.G., Eggert L.S. (2011) Genetic diversity, social structure, and conservation value of the elephants of the Nakai Plateau, Lao PDR, based on non-invasive sampling. <i>Conservation Genetics</i> 12, 413-422.
HQ113850		Lao PDR	Ahlering M.A., Hedges S., Johnson A., Tyson M., Schuttler S.G., Eggert L.S. (2011) Genetic diversity, social structure, and conservation value of the elephants of the Nakai Plateau, Lao PDR, based on non-invasive sampling. <i>Conservation Genetics</i> 12, 413-422.
HQ113851		Lao PDR	Ahlering M.A., Hedges S., Johnson A., Tyson M., Schuttler S.G., Eggert L.S. (2011) Genetic diversity, social structure, and conservation value of the elephants of the Nakai Plateau, Lao PDR, based on non-invasive sampling. <i>Conservation Genetics</i> 12, 413-422.
HQ113852		Lao PDR	Ahlering M.A., Hedges S., Johnson A., Tyson M., Schuttler S.G., Eggert L.S. (2011) Genetic diversity, social structure, and conservation value of the elephants of the Nakai Plateau, Lao PDR, based on non-invasive sampling. <i>Conservation Genetics</i> 12, 413-422.
AF317518	1	Laos, Malaysia	Fickel J., Lieckfeldt D., Ratanakorn P., Pitra C. (2007) Distribution of haplotypes and microsatellite alleles among Asian elephants (<i>Elephas maximus</i>) in Thailand. <i>European Journal of Wildlife Research</i> 53, 298-303.
AF317519	2		Fickel J., Lieckfeldt D., Ratanakorn P., Pitra C. (2007) Distribution of haplotypes and microsatellite alleles among Asian elephants (<i>Elephas maximus</i>) in Thailand. <i>European Journal of Wildlife Research</i> 53, 298-303.
AF317520	3	Vietnam	Fickel J., Lieckfeldt D., Ratanakorn P., Pitra C. (2007) Distribution of haplotypes and microsatellite alleles among Asian elephants (<i>Elephas maximus</i>) in Thailand. <i>European Journal of Wildlife Research</i> 53, 298-303.

Appendix D. Test of genetic differentiation at 11 autosomal microsatellites

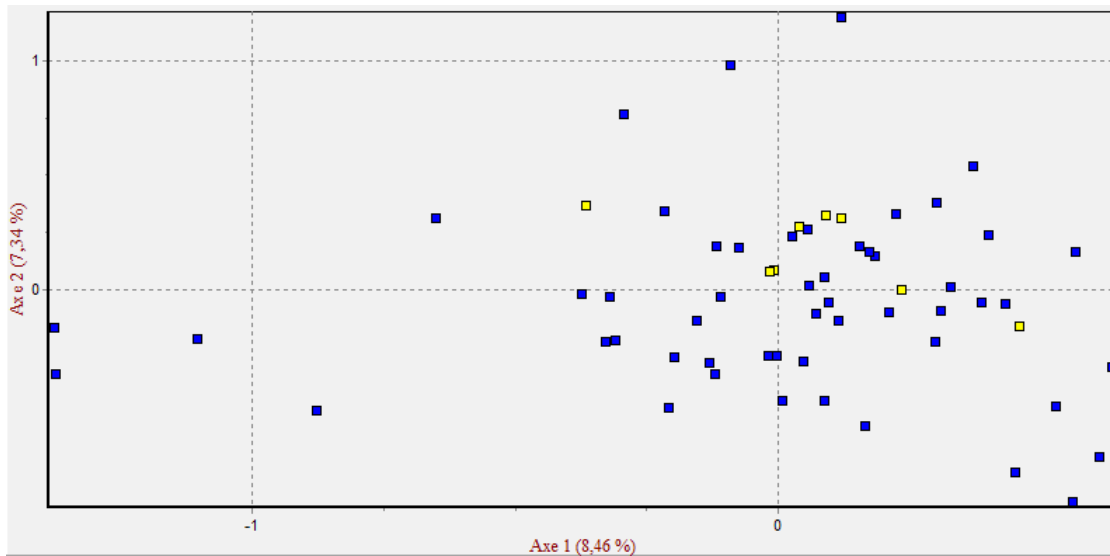
Genetic structure within the Myanma elephants was tested for with a Bayesian clustering approach in STRUCTURE version 2.3.4 (Pritchard et al.2000) and a factorial correspondence analysis (FCA) in GENETIX 4.05.2 (Belkhir et al. 2004). After testing for convergence, the final burn-in length of the STRUCTURE runs was set to 10,000 iterations followed by another 100,000 iterations. Fifty replicates were run for 10 different K values (five each for K = 1 to 10) to determine the means and standard deviations for the posterior probability that K is the correct number of genetic clusters. Results were obtained by STRUCTURE HARVESTER (Earl and vonHoldt 2012). The ΔK statistic (Evanno et al. 2005) could not be used to identify the most likely number of populations because it is not applicable to $K=1$ which consistently turned out to be the most probable result (highest probability values and lowest standard deviation among replicate runs).

The factorial correspondence analysis (FCA) did not yield evidence of differentiation in our elephant microsatellite dataset, neither with respect to origin (camp) (a, blue: Taikkyi, yellow: MHW) nor mtDNA haplogroup (α/β)(b, blue: β -clade, yellow: α -clade). For better visibility, the two-dimensional results (based on the first two axes) are shown, but three-dimensional results (first three axes) were concordant with these.

a.



b.



References:

Belkhir K., Borsa P., Goudet J., Chikhi L., Bonhomme F. 2004. GENETIX v.4.05 logiciel sous Windows Ô pour la genetique des populations. Laboratoire Genome, Populations, Interactions CNRS UMR 5000, University of Montpellier II, Montpellier

Earl D.A., vonHoldt B.M. 2012. STRUCTURE HARVESTER: a website and program for visualizing STRUCTURE output and implementing the Evanno method. *Conserv. Genet.* 4: 359-361.

Evanno G., Regnaut S., Goudet J. 2005. Detecting the number of clusters of individuals using the software STRUCTURE: a simulation study. *Mol. Ecol.* 14: 2611–2620.

Pritchard J.K., Stephens M., Donnelly P. 2000. Inference of population structure using multilocus genotype data. *Genetics* 155:945–959.