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Field Investigation Report on Captive Asian Elephants in China

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Abstract. Due to the limited public access to information on captive Asian elephants in China, there is a general lack of understanding regarding the status of this population. To address this gap, a national census was initiated through an ongoing field investigation beginning in 2022 and continuing through 2030. This paper presents a summary of all information compiled to date, including profile data for 148 elephants and the 35 families or kinship groups. It also examines major welfare concerns, insufficient living space, and unregulated tourist feeding, as well as the inefficiency of current breeding programs.

Introduction

Based on the 2024 statistics shared by volunteers, 312 captive Asian elephants (*Elephas maximus*) are housed across ~76 facilities in ~64 cities in 29 provinces of China (Figure 1, Table 1). Yet limited information has impeded a comprehensive understanding of their distribution, profile information, living conditions, and family/kinship group structures. Thus, a national census is essential to inform future conservation efforts and improve captive welfare. Since August 2022, a long-term field investigation has been conducted, aiming to document every individual elephant kept in captivity by 2030.

This paper provides a summary of data collected and catalogued through an ongoing field investigation conducted between August 2022 and June 2025, supplemented by limited official information and information shared by volunteers who are dedicated to long-term field observation. It offers an overview of the current status of captive Asian elephants in China by examining major welfare concerns that compromise their well-being and discussing the inefficiency of breeding programs.

Materials and methods

Five field investigation trips were conducted between August 2022 and June 2025: 1–22 Au-

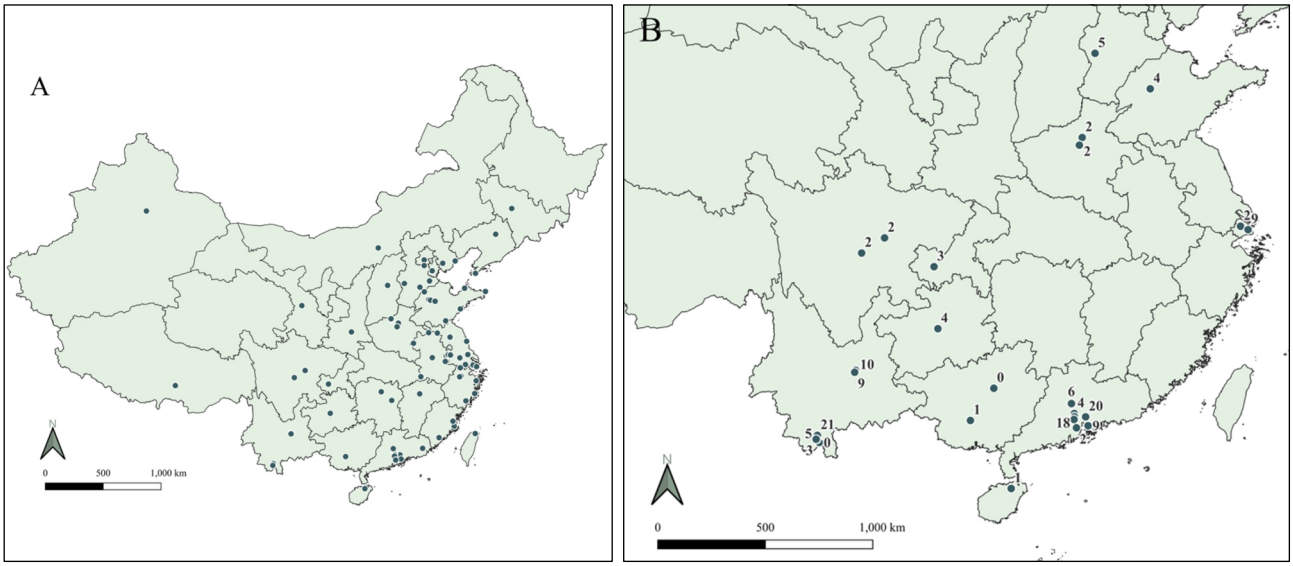

Figure 1. Distribution of 76 elephant keeping facilities in 29 provinces and municipalities (A) and facilities visited with number of documented elephants (B). Some points overlap due to proximity.

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Table 1. Asian elephant-keeping facilities in China and the number of documented elephants (N) if the facility has been visited.

Province	City	Facility	N
Anhui	Fuyang	Linquan Magic Zoo	
	Hefei	Hefei Wildlife Park	
	Huaibei	Huaibei Zoo	
	Maanshan	Anhui Daqingshan Wild Animal World	
Beijing	Beijing	Beijing Wildlife Park	
	Beijing	Beijing Zoo	
Chongqing	Chongqing	Chongqing Zoo	3
Fujian	Fuqing	Fuqing Yonghong Wild Animal World	
	Fuzhou	Fuzhou Zoo	
	Zhangzhou	Mount Tianzhu Happy Animal Kingdom	
Gansu	Lanzhou	Lanzhou Wild Animal Zoo	
Guangdong	Dongguan	Dongguan Xiangshi Zoo	20
	Foshan	Chuanlord Fairy Tale Kingdom of Animals	3
	Guangzhou	Guangzhou Chimelong Safari Park	18
	Guangzhou	Guangzhou Zoo	4
	Jieyang	Chaoshan Wangtian Lake Wild Animal Zoo	
	Qingyuan	Qingyuan Chimelong Forest Kingdom	6
	Shenzhen	Shenzhen Safari Park	9
	Zhongshan	Zimaling Zoo	2
Guangxi	Nanning	Nanning Zoo	1
Guizhou	Guiyang	Guizhou Wildlife Park	4
Hainan	Haikou	Hainan Tropical Wildlife Park and Botanical Garden	1
Hebei	Cangzhou	Cangzhou Zoo	
	Hengshui	Hengshui Wildlife Park	
	Qinhuangdao	Qinhuangdao Safari Park	
	Shijiazhuang	Shijiazhuang Zoo	5
	Tangshan	Tangshan Zoo	
Henan	Qinyang	Qinyang Hesheng Forest Zoo & Fun	
	Qinyang	Qinyang Swan Lake Ecological Park	
	Zhengzhou	Enjoy Animal Kingdom	2
	Zhengzhou	Zhengzhou Zoo	2
Hubei	Huanggang	E Dong Animal Kingdom	
Hunan	Changsha	Changsha Ecological Zoo	
	Hanshou	Changde Wildlife World	
Jiangsu	Changzhou	Dinosaur Land	
	Huaian	Huaian Zoo	
	Nanjing	Hongshan Forest Zoo	
	Nanjing	Ziqing Lake Wildlife World	
	Nantong	Nantong Forest Safari Park	
	Suzhou	Suzhou Shangfangshan Forest Zoo	
	Xuzhou	Xuzhou Jiudingshan Wildlife Park	
	Yancheng	Yancheng Dafeng Port Zoo	
Jiangxi	Nanchang	Nanchang Zoo	
Jilin	Changchun	Changchun Zoological and Botanical Park	
Liaoning	Dalian	Dalian Forest Zoo	
	Shenyang	Shenyang Forest Zoological Garden	
Nei Mongol	Hohhot	Hohhot Zoo (formerly Daqingshan Safari Park)	
Shaanxi	Xi'an	Qinling Wildlife Park	
Shandong	Dezhou	Dezhou Zoological and Botanical Garden	
	Dezhou	Quancheng All Love Park Animal Kingdom	
	Jinan	Jinan Wildlife World	
	Jinan	Jinan Zoo	4
	Linyi	Linyi Zoological and Botanical Garden	

Table 1. Asian elephant-keeping facilities in China and the number of documented elephants (N) if the facility has been visited (continued).

Province	City	Facility	N
Shandong	Qingdao	Qingdao Forest Wildlife World	
	Weihai	Shendiaoshan Wildlife World	
	Yantai	Longkou Zoological and Botanical Park	
Shanghai	Shanghai	Shanghai Wild Animal Park	9
	Shanghai	Shanghai Zoo	2
Shanxi	Taiyuan	Taiyuan Zoo	
Sichuan	Chengdu	Chengdu Zoo	2
	Yaan	Bifengxia Safari Park	2
Taiwan	Taipei	Taipei Zoo	
Tianjin	Tianjin	Tianjin Zoo	
Tibet	Lhasa	Jingtu Animal Protection Zoo	
Xinjiang	Ürümqi	Xinjiang Tianshan Wild Zoo	
Yunnan	Jinghong	Manting Imperial Garden	5
	Jinghong	Wild Elephant Valley Scenic Area	21
	Jinghong	Xishuangbanna Tropical Zoo	3
	Kunming	Kunming Zoo	10
	Kunming	Yunnan Nationalities Village	9
Zhejiang	Hangzhou	Hangzhou Safari Park	
	Hangzhou	Hangzhou Zoo	
	Huzhou	Longemont Animal World	
	Ningbo	Ningbo Wildlife Park	
	Taizhou	Taizhou Bay Wild Animal Park	
	Wenzhou	Wenzhou Zoo	
29	64	76	148

gust 2022, 15–18 January 2023, 23–29 June 2023, 16–20 June 2024, and 24–29 June 2025. Revisits to three facilities are also conducted on other independent days. During these trips, photographs and videos were taken at 26 facilities (Table 1) to document elephant numbers, individual characteristics, and to assess their living environments.

Notably, 2 facilities I visited, Xishuangbanna Dai Garden and Liuzhou Zoo, are not included in Table 1, as they no longer housed elephants at the time of my visit. These two sites were visited to help identify previously held individuals. Not all elephants housed at the surveyed facilities were documented during each visit, as some individuals were not exhibited outdoors due to various factors. Therefore, the exact count of individuals for certain facilities could not be confirmed. To mitigate this limitation, several sites were revisited, and changes were recorded across multiple visits.

For every facility visited, profile information was compiled for each recorded individual, together with the family or kinship structures that have formed following the introduction of the founder elephants. The compilation was derived from three sources: (1) the field investigation described above, (2) limited official information released by elephant-keeping facilities, and (3) data shared by volunteers engaged in long-term field observations and historical information collection. The limited official information from these facilities consisted of few social media posts published by facilities, oral accounts from keepers, and onsite information boards.

Results

Profile data were compiled for 148 individuals out of a total of more than 193 individuals housed across the 24 facilities (Table 2). For each facility visited, information on family/kinship group structures, exhibit characteristics, and specific notes (e.g., cases of obesity and tourist feeding) is presented where available.

In total, 35 family and kinship group structures are illustrated through diagrams. The information of members in these family or kinship structure diagrams is presented in terms of birth,

Table 2. Individual profile of captive Asian elephants in Chinese Zoos.

N	Facility	Name	Gender	Date of birth	Age	Origin
1	Dongguan Xiangshi Zoo	Ge La	F	~1989	Adult	Myanmar
		Cu Tui	F	~1988	Adult	Laos
		Gao Mi	F	unknown	Adult	Myanmar
		#3	M	unknown	Adult	Laos
		#6	F	unknown	Adult	Probably Laos
		#9	F	unknown	Adult	Myanmar
		#12	F	unknown	Adult	Laos
		Ding Ding	F	unknown	Adult	Probably Laos
		Ming Ming	F	~2005	Adult	Born at the zoo
		Niu Niu	F	2008/2009	Adult	Born at the zoo
		Dang Dang	F	2014/2015	Subadult	Born at the zoo
		Unknown #1	M	29 Aug 2018	Juvenile	Born at the zoo
		Zhu Mei	F	Aug 2024	Calf	Born at the zoo
		Fei Zai	M	26 Jan 2022	Calf	Born at the zoo
		Unknown #2	M	Aug 2018	Juvenile	Born at the zoo
		Hao Cao Zai	M	30 Jan 2022	Calf	Born at the zoo
		Tuan Tuan	M	~2017	Juvenile	Born at the zoo
		Da Ge Zai	M	Oct 2021	Juvenile	Born at the zoo
		Yuan Yuan	F	2019/2020	Juvenile	Born at the zoo
		Unknown #3	F	unknown	Juvenile	Unknown
		Unknown #4	F	unknown	Juvenile	Unknown
2	Kunming Zoo	Ya Ming	F	16 Jan 1990	Adult	Born at the zoo
		Mo Po	F	1980s	Adult	Wild in Yunnan
		Zhong Bo	M	1980s	Adult	Wild in Yunnan
		Ya Ling	F	31 Mar 2012	Subadult	Born at the zoo
		520	M	20 May 2017	Juvenile	Born at the zoo
		Ya Se	M	15 Oct 2021	Juvenile	Born at the zoo
		Kun Kun	F	30 Apr 2004	Adult	Born at the zoo
		Mo Li	F	20 Mar 2016	Juvenile	Born at the zoo
		Jiu Ban	M	1990s	Adult	Laos
		Jiu Jiu	M	28 Sept 2021	Juvenile	Born at the zoo
3	Yunnan Nationalities Village	Long Lin	F	Unknown	Adult	Thailand
		Akang	M	Unknown	Adult	Thailand
		Nan Feng	F	~1990	Adult	Thailand
		Sai Bo	F	Unknown	Adult	Thailand
		An An	F	16 Feb 2007	Adult	Wild Elephant Valley S.A.
		Qiu Chen	F	2011	Subadult	Born at the facility
		Yang Yang	M	21 Nov 2015	Subadult	Born at the facility
		Huan Huan	F	5 Nov 2016	Juvenile	Born at the facility
		Ai Ni	F	30 Apr 2020	Juvenile	Born at the facility
4	Wild Elephant Valley Scenic Area	Yi Nen	F	~1998	Adult	Myanmar
		Ge Lan	F	~1998	Adult	Myanmar
		Lu La	F	~2000	Adult	Myanmar
		Yi Shuang	F	22 Dec 2017	Juvenile	Born at the facility
		Yi Wa	F	27 Dec 2018	Juvenile	Born at the facility
		Xiao Ba	F	13 Nov 2019	Juvenile	Born at the facility
		Unknown #1	M	unknown	Juvenile	Born at the facility
		Unknown #2	F	unknown	Adult	Myanmar/Laos
		Unknown #3	F	unknown	Adult	Myanmar/Laos
		Unknown #4	F	unknown	Adult	Myanmar/Laos
		Unknown #5	F	unknown	Adult	Myanmar/Laos
		Wang Wang	F	11Mar 2010	Adult	Born at the facility
		Yi Shuai	F	unknown	Subadult	Laos
		Wen Mi	F	unknown	Subadult	Laos
		Xi Guo	M	unknown	Adult	Myanmar

Table 2. Individual profile of captive Asian elephants in Chinese Zoos (continued).

N	Facility	Name	Gender	Date of birth	Age	Origin
4	Wild Elephant Valley Scenic Area	Duo Duo	M	unknown	Adult	Myanmar
		Ban Ben	M	unknown	Adult	Myanmar
		Fen Da	M	unknown	Adult	Myanmar
		Yan Lei	M	unknown	Adult	Thailand
		Unknown #6	M	unknown	Adult	Myanmar/Laos
		Unknown #7	M	unknown	Adult	Myanmar/Laos
5	Manting Imperial Garden	Yu En	F	~1994	Adult	Laos
		Tong Han	M	1994	Adult	Laos
		Nian Nian	F	Jan 2021	Juvenile	Born at the facility
		Xiao Bao	M	~2018	Juvenile	Laos
		Ya Nan	M	27 Feb 2009	Adult	Kunming Zoo
6	Xishuangbanna Tropical Zoo	Yu Huan	F	unknown	Adult	Laos
		Little Prince	M	26 Feb 2022	Calf	Born at the facility
		Xiao Bei	M	2018/2019	Juvenile	Laos
7	Chengdu Zoo	Ji Sheng	M	2 Aug 1978	Adult	Beijing Zoo
		Mo Jia	F	12 Jun 2012	Subadult	Kunming Zoo
8	Bifengxia Safari Park	Guo Zha	F	~1990	Adult	Thailand
		Mo Guo	M	1997	Adult	Kunming Zoo
9	Chongqing Zoo	Bo Bo	M	1980	Adult	Myanmar
		Xi Xi	M	19 Mar 1998	Adult	Born at the facility
		Xiao Xiao	F	16 Aug 2008	Adult	Born at the facility
10	Guangzhou Zoo	Bao Long	M	25 Apr 1976	Adult	Born at the facility
		Yue Long	M	5 Nov 1980	Adult	Born at the facility
		Man Ling	F	1985	Adult	Myanmar
		Er Wang	F	2006	Adult	Nanning Zoo
11	Guangzhou Chimelong Safari Park	Ji Gu	F	~1987	Adult	Malaysia - Peninsular
		Adina	F	~1988	Adult	Malaysia - Peninsular
		Mudd	F	~1980	Adult	Malaysia - Borneo
		Simone	F	~1990	Adult	Malaysia - Borneo
		Indon	F	~1990	Adult	Malaysia - Borneo
		Foley	F	1989/1990	Adult	Malaysia - Borneo
		Kane	F	1992	Adult	Malaysia - Borneo
		Nobie	F	1989/1990	Adult	Malaysia - Borneo
		Levy	M	~1986	Adult	Malaysia - Peninsular
		Long Long	F	4 Apr 2005	Adult	Born at the facility
		Annie	F	30 May 2015	Subadult	Born at the facility
		Julie	F	~11 Oct 2007	Adult	Born at the facility
		Maria	F	25 Aug 2009	Adult	Born at the facility
		Nina	F	18 May 2010	Adult	Born at the facility
		Juan Juan	M	30 Apr 2020	Juvenile	Born at the facility
		Wei Wu	M	1 Mar 2021	Juvenile	Born at the facility
		Wei Wang	M	23 May 2021	Juvenile	Born at the facility
		Wei Feng	F	28 Dec 2021	Juvenile	Born at the facility
12	Shenzhen Safari Park	Lu Weng	F	~1988	Adult	Myanmar
		Long Long	F	1988/1989	Adult	Myanmar
		Guo Shun	F	~1990	Adult	Myanmar
		Guo Lai	F	~1990	Adult	Myanmar
		Guo Pan	F	~1990	Adult	Myanmar
		A Mai	M	1988	Adult	Myanmar
		Bo Shi	M	9 Jun 2002	Adult	Born at the facility
		Xin Xin	F	3 Nov 2007	Adult	Born at the facility
		Qing Qing	F	25 Apr 2007	Adult	Born at the facility
13	Zhengzhou Zoo	Kang	F	~1997	Adult	unknown
		Bu Yang	M	1997	Adult	unknown

Table 2. Individual profile of captive Asian elephants in Chinese Zoos (continued).

N	Facility	Name	Gender	Date of birth	Age	Origin
14	Enjoy Animal Kingdom	Ya Long	F	1960s	Adult	Myanmar
		Mo Fang	M	1990s	Adult	unknown
15	Shijiazhuang Zoo	Mai	F	1978	Adult	Myanmar
		Na Tu	M	1981	Adult	Myanmar
		Du Wang	M	1983	Adult	Myanmar
		Ao Bao	F	20 Oct 2007	Adult	Kunming Zoo
		Ao Dong	M	15 Dec 2021	Juvenile	Born at the facility
16	Jinan Zoo	Sa Kuan	F	1985	Adult	Myanmar
		Ya Kun	M	16 Mar 1986	Adult	Kunming Zoo
		Mai Mang	F	1980s	Adult	Laos
		Mai Kun	F	1980s	Adult	Laos
17	Shanghai Zoo	Ba Mo	M	1961	Adult	Myanmar
		Duo Duo	F	2002	Adult	Myanmar
18	Shanghai Wild Animal Park	Ma Qie	F	~1960s	Adult	Myanmar
		A De	F	1994	Adult	Laos
		A Lian	F	2008	Adult	Laos
		A Xing	F	1997	Adult	Laos
		Mi Mi	F	1997	Adult	Laos
		Ling Dang	F	2009	Adult	Laos
		Nan Di	F	2004	Adult	Laos
		Ya Nu	M	Oct 2005	Adult	Born at the facility
		Tian Cai	M	2004	Adult	Laos
19	Hainan Tropical Wildlife Park and Botanical Garden	Zhuang Bu	F	1982/1983	Adult	unknown
20	Nanning Zoo	Ning Ning	F	1983	Adult	Myanmar
21	Guizhou Wildlife Park	Bo En	F	unknown	Adult	Laos
		Xi Lun	M	unknown	Adult	Laos
		Anna	F	unknown	Adult	Laos
		Li Chun	F	4 Feb 2021	Juvenile	Born at the facility
22	Qingyuan Chimelong Forest Kingdom	Wei Da	F	~1980	Adult	Malaysia - Peninsular
		Ella	F	26 Jul 2007	Adult	Born at the facility
		Jimmy	F	18 Sept 2010	Adult	Born at the facility
		Tony	M	2 Mar 2008	Adult	Born at the facility
		Nice	F	12 May 2020	Juvenile	Born at the facility
		Tonn	M	2 Apr 2022	Calf	Born at the facility
23	Zimaling Zoo	Duo Mi	F	~1980s	Adult	unknown
		Da Yun	M	25 Nov 2010	Adult	Shenzhen Safari Park
24	Chuanlord Fairy Tale Kingdom of Animals	Yu Jiao	F	1984/1985	Adult	unknown
		Yu La	F	1990/1991	Adult	unknown
		Zhuang Zhuang	M	23 Mar 2019	Juvenile	Born at the facility

historical transfers, and current location or death. For example, "b. 1988, Laos" indicates that the individual was born in Laos in 1988, while "Sept 2016, Dongguan Xiangshi Zoo" refers to the elephant's arrival at Dongguan Xiangshi Zoo in September 2016. Furthermore, a black box surrounding an individual indicates deceased status, whereas blue text denotes individuals currently present at the corresponding facility.

1. Dongguan Xiangshi Zoo

Twenty elephants were documented across four visits to the Dongguan Xiangshi Zoo on 1 August 2022, 4 August 2022, 17 January 2023, and 24 June 2025. 17 individuals were observed during the first three visits. It is known that two returned to the zoo in 2024, and one was born in August 2024. On the fourth visit, the three previously recorded individuals, Da Ge Zai, Fei Zai, and Hao Cao Zai, were not present.

Through captive breeding at Dongguan Xiangshi Zoo, one kinship group (led by Ge La) and two family groups (led by Cu Tui and Gao Mi, respectively) have been formed. Charts outlining the structure of each group, along with profile information for each group member, are provided in Figure 2.

The outdoor area is rudimentary, with a concrete floor under the roof and compacted soil outside. Almost no enrichment was observed. The facility consisted of three main exhibits, one designated for an adult male. By the time of my first visit, the adult male Wen Rou had already been transferred to other facilities, a situation related to the limited availability of outdoor enclosures for adult males.

In May 2022, the facility ceased elephant performances; however, by my fourth visit, riding and feeding services for tourists were still ongoing. For the riding program, Niu Niu and Dang Dang were separated from the rest of the herd and confined to another concrete enclosure for the entire duration of visiting hours.

2. Kunming Zoo

Ten elephants at the facility were recorded across four visits: 7 August 2022, 8 August 2022, 26 July 2024, and 29 July 2024. Through captive breeding at Kunming Zoo, two kinship groups (each led by Ya Long and Mo Po, respectively) and one family group (led by Xiangdong) have been formed. Figure 3 presents diagrams outlining the structure of each group, along with profile information for each group member.

Ya Kun and Ya Nan, from the kinship led by Ya Long, as well as Mo Guo, from the kinship led by Mo Po, were transferred to other facilities at a young age, in part due to insufficient outdoor exhibit space. During the third and fourth visits, Mo Po, Mo Li, and Ya Se were observed to be obese, likely associated with excessive food intake and inadequate exercise.

3. Yunnan Nationalities Village

Nine elephants were documented across two visits on 8 August 2022 and 29 July 2024. An

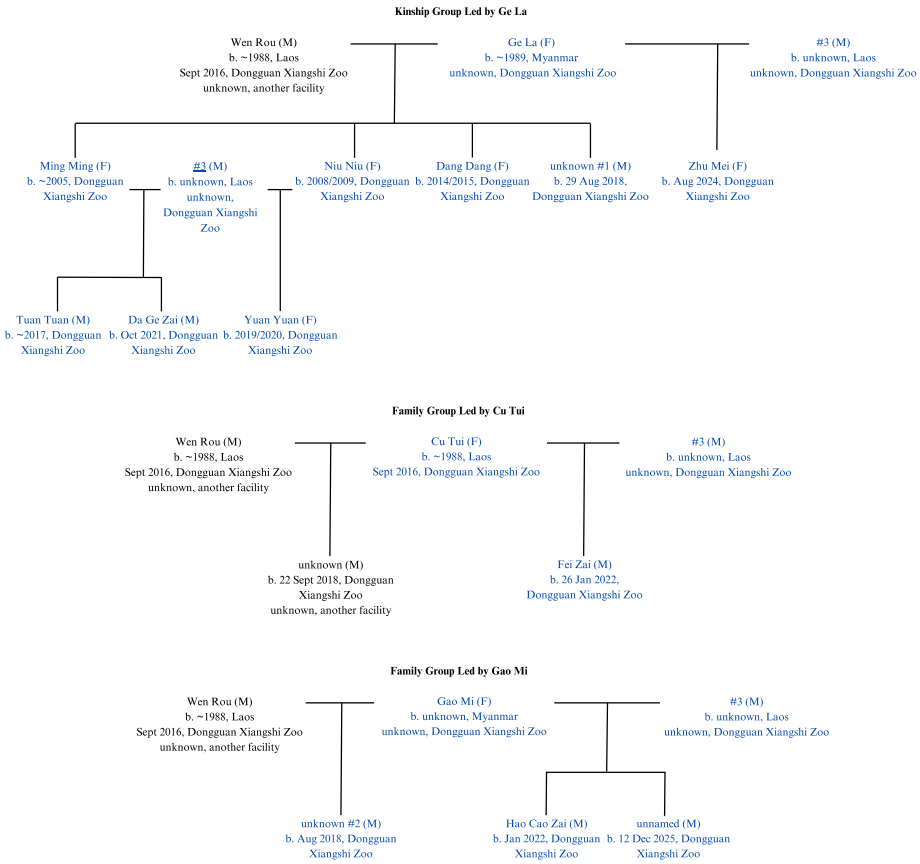

Figure 2. Family and kinship group structures at Dongguan Xiangshi Zoo.

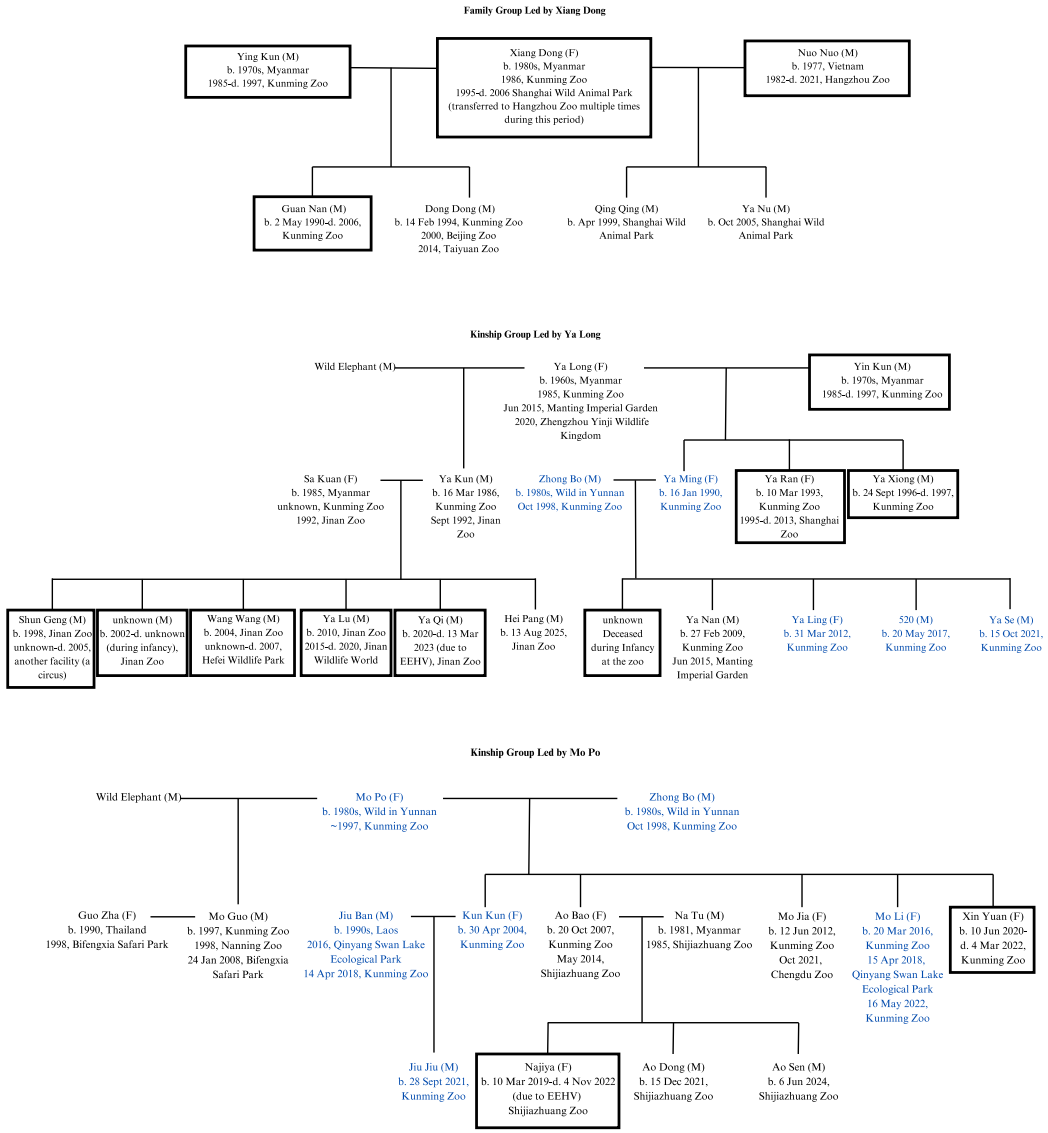

Figure 3. Family and kinship group structures at Kunming Zoo.

adult female elephant, An An, had already returned to the Wild Elephant Valley by the time of the second visit. Through captive breeding at Yunnan Nationalities Village, two family groups (led by Nan Feng and An An, respectively) have been formed. Figure 4 presents diagrams outlining the structure of each group, along with profile information for each group member.

The floors of both the outdoor exhibit and the performance area were entirely concrete, with no enrichment provided other than water pools. At the first visit, the facility offered elephant performances, riding, and feeding. By July 2023, performances had ceased, although feeding was still ongoing as observed during the second visit. Whether riding activities had been discontinued could not be confirmed.

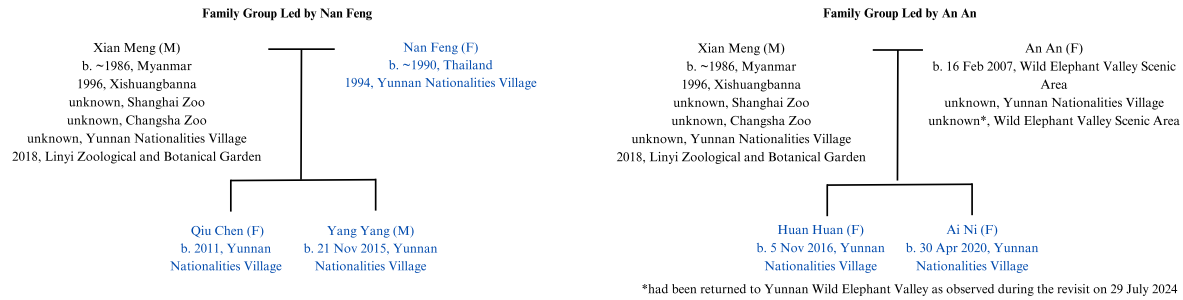

Figure 4. Family group structures at Yunnan Nationalities Village.

4. Wild Elephant Valley Scenic Area

Because not all elephants were on display, the exact number present at the facilities remains uncertain. According to Yang *et al*. (2022), approximately 47 elephants inhabit the Wild Elephant Valley Scenic Area, with 21 individuals documented as of the observation on 10 Aug 2022. After the visit, three male elephants were born in 2022, August 2023, and February 2024, respectively; in April 2025, eight were transferred to Shanghai Wild Animal Park; one adult female elephant from Yunnan Nationalities Village had already returned by 29 July 2024.

Through captive breeding at Wild Elephant Valley Scenic Area, six family groups (led by Pin Zai, Future, Ran Ran, Yi Nen, Ge Lan, and Lu La, respectively) have been formed. Figure 5 presents diagrams outlining the structure of each group, along with profile information for each group member.

During the visit, the facility offered elephant performances, riding, and tourist feeding activities. All enclosures housing captive elephants had compacted soil floors. Four elephants were rotated into a separate area to provide feeding interactions with tourists. Due to the large number of visitors, feeding sessions continued for hours without break. The food provided consisted of fruits and vegetables, including bananas, carrots, cucumbers, and apples. Elephants were observed to be obese, a condition associated with excessive consumption of these treats, the restricted size of the feeding area, and the

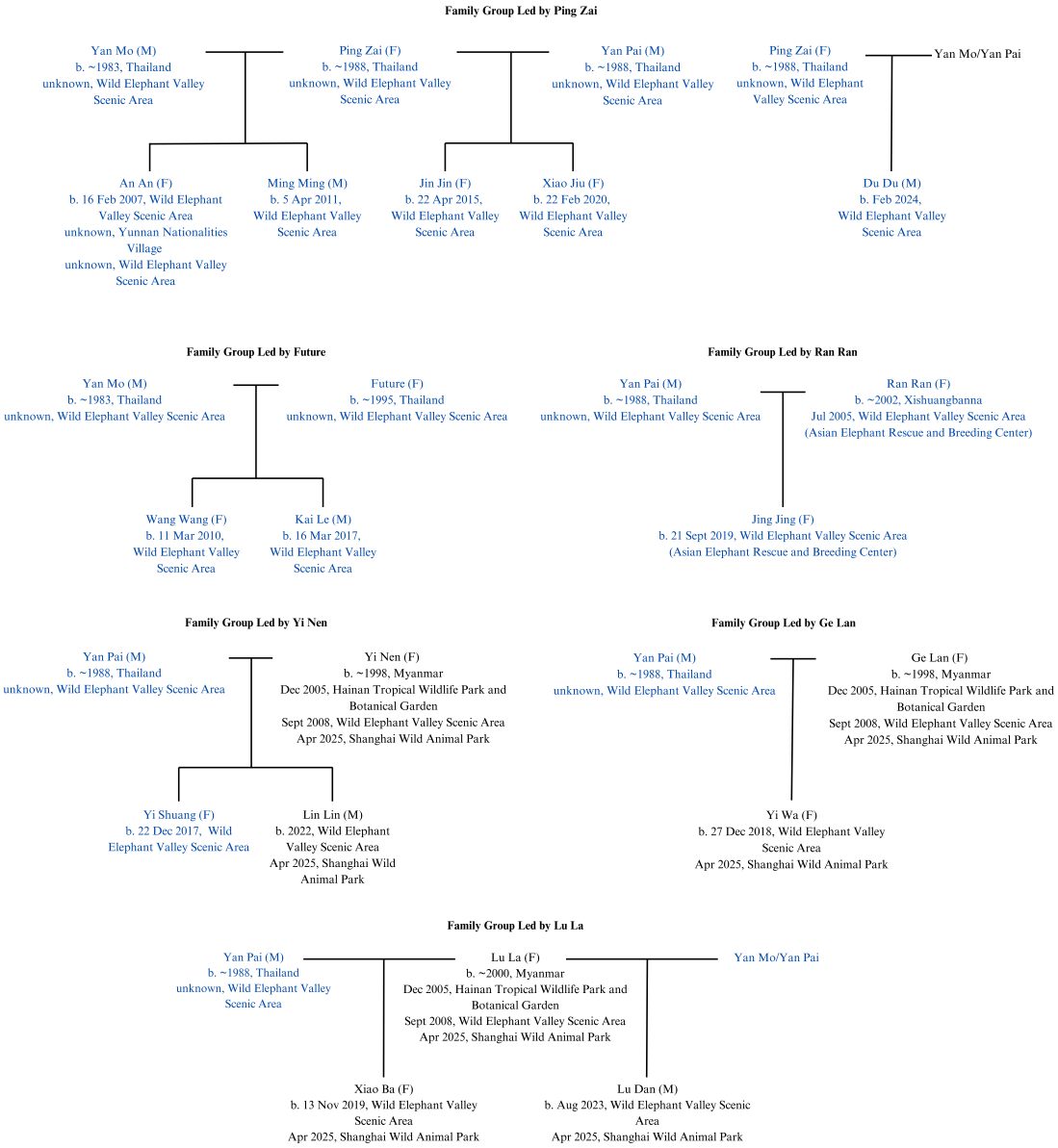

Figure 5. Family group structures at Wild Elephant Valley Scenic Area.

lack of opportunities for other physical activity during feeding hours. By July 2023, elephant performances had ceased; however, it remained unclear whether riding and feeding activities were still ongoing.

5. Manting Imperial Garden

Five elephants were observed and documented on 12 and 13 Aug 2022. Through captive breeding at Manting Imperial Garden, one family group (led by Yu En) has been formed. Figure 6 presents diagrams outlining the structure of the group, along with profile information for each group member.

There was no outdoor exhibit, only a performance area, and at the time of visit the facility offered elephant performances, feeding, and riding. The performance area consisted entirely of concrete flooring. Around May 2023, elephant performances ceased; however, it remained uncertain whether riding and feeding activities were still being conducted.

6. Xishuangbanna Tropical Zoo

Three elephants were observed and documented on 13 Aug 2022. Through captive breeding at Xishuangbanna Tropical Zoo, one family group (led by Yu Huan) has been formed. Figure 7 presents a diagram outlining the structure of the group, along with profile information for each group member.

By the time of the visit, elephant performances had ceased, although the exact date of discontinuation was uncertain. The facility, however, continued to provide feeding services. Adult female Yu Huan and the calf Xiao Bei were observed either preoccupied with tourist feeding

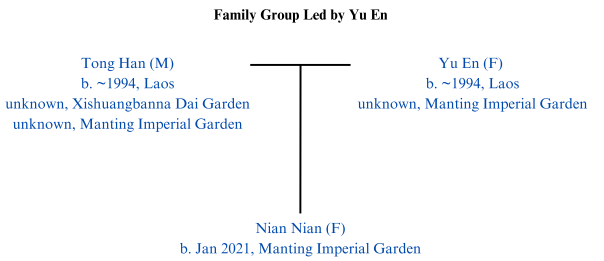

Figure 6. Family group structure at Manting Imperial Garden.

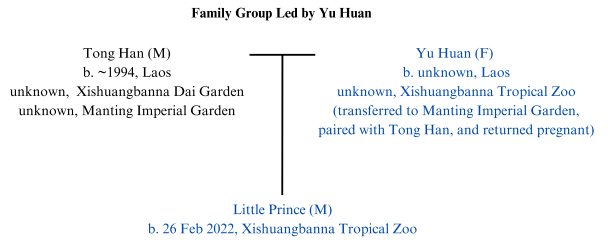

Figure 7. Family group structure at Xishuangbanna Tropical Zoo.

or competing for dominance over the limited food resources offered by visitors. As a result, Yu Huan's son, Little Prince, was often left to engage in solitary play or to imitate the food-begging behaviour. The exhibits consisted entirely of concrete flooring.

7. Chengdu Zoo

Two elephants were observed and documented across two visits on 19 and 21 August 2022. Through captive breeding at Chengdu Zoo, one family group (led by Xian Nai) has been formed. Figure 8 presents a diagram outlining the structure of the group, along with profile information for each group member. The information on the kinship group to which Mo Jia belongs is illustrated in Figure 3. Liu Yi was transferred to another facility before reaching two years of age, partly due to the availability of only one outdoor exhibit for male elephants.

8. Bifengxia Safari Park

Two elephants were observed and documented on 20 Aug 2022. Guo Zha and Mo Guo currently have no offspring. The information on the kinship group to which Mo Guo belongs is illustrated in Figure 3.

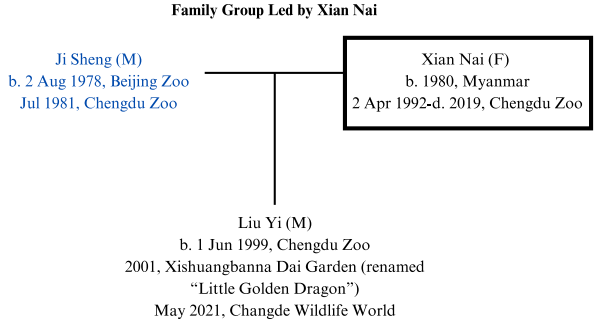

Figure 8. Family group structure at Chengdu Zoo.

9. Chongqing Zoo

Three elephants were observed and documented on 22 Aug 2022. After the visit, one adult male elephant was transferred to Changchun Zoological and Botanical Park in May 2024. Through captive breeding at Chongqing Zoo, one family group (led by Yi Li) has been formed. Figure 9 presents a diagram outlining the structure of the group, along with profile information for each group member.

10. Guangzhou Zoo

Four elephants were observed and documented at Guangzhou Zoo across two visits on 15 January 2023 and 28 June 2025. Between the two visits, a male elephant, Bao Long, passed away in July 2024. Through captive breeding at Guangzhou Zoo, one family group (led by Yi Long) has been formed. Figure 10 presents a diagram outlining the structure of the group, along with profile information for each group member. Er Wang was observed to be obese, which is associated with the excessive quantities of food provided by the facility and insufficient exercise.

11. Guangzhou Chimelong Safari Park

18 were observed and documented across two visits to the facility on 16 January 2023 and 25 June 2025. On the first visit, 29 were known to be present at the facility, but not all individuals were on display outdoors. After the first visit, one baby female elephant passed away on 12 June 2023, and seven were transferred to Qinggyuan Chimelong Forest Kingdom in 2024. The first generation and part of the second-generation elephants are identified by English names, but only their transliterated Chinese names are officially known. Consequently, their English names are proposed and are not official.

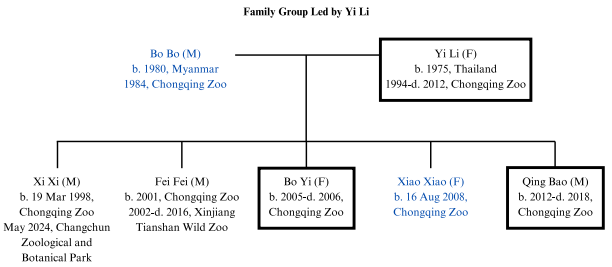

Figure 9. Family group structure at Chongqing Zoo.

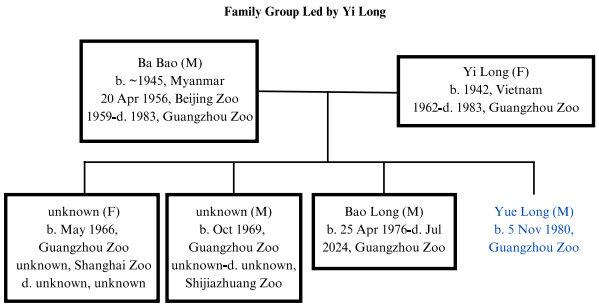

Figure 10. Family group structure at Guangzhou Zoo.

Through captive breeding at Guangzhou Chimelong Safari Park, four kinship groups (each led by Ji Gu, Nobie, Simone, and Pam, respectively) and four family groups (each led by Adina, Mudd, Foley, and Kane) have been formed. Figure 11 presents diagrams outlining the structure of the groups, along with profile information for each group member.

By the time of first visit in January 2023, four male elephants were kept in separate indoor enclosures (with access to a very small outdoor area), entirely removed from public view. The four comprise three adult elephants and one juvenile elephant (Levy, Kowie, Stanley and Harry) experiencing complete social isolation. Upon a second visit in June 2025, only Levy was observed in an outdoor exhibit. Such situation partly attributes to insufficient numbers of outdoor exhibits the facility provided to the bull.

At the end of March this year, the male calves Wei Wu and Wei Wang, along with the juvenile male Juan Juan, were separated from the herd. The main reasons were: (1) aggression toward females resulting in injuries, and (2) sexual mounting attempts, particularly by Juan Juan. According to the Ji Gu family kinship records, An Ni was born on 30 May 2015, and her earliest possible pregnancy was estimated around February 2020, when she was not yet five years old. Although official information listed her mate as the adult male Stanley, volunteers who had conducted long-term observations at the facility believed her actual mate was her brother Liu Yi, who was eight years old at the time.

According to a keeper at the facility, there was an additional reason for separating the young males from the herd at such an early age beyond the two mentioned above: early separation allows them to gradually establish their own social hierarchy based on ability. If separation were delayed, intense fighting to determine dominance would likely occur, which in turn would require the facility to stagger their release into the outdoor exhibit so that only one could be displayed at a time.

By the time of the second visit, female elephants Ji Gu, Adina, Mudd, Simone, Indon, Folie, Kane, Nobie, Julie, and Maria were observed to be obese, which is associated with the excessive quantities of food provided by the facility and insufficient exercise.

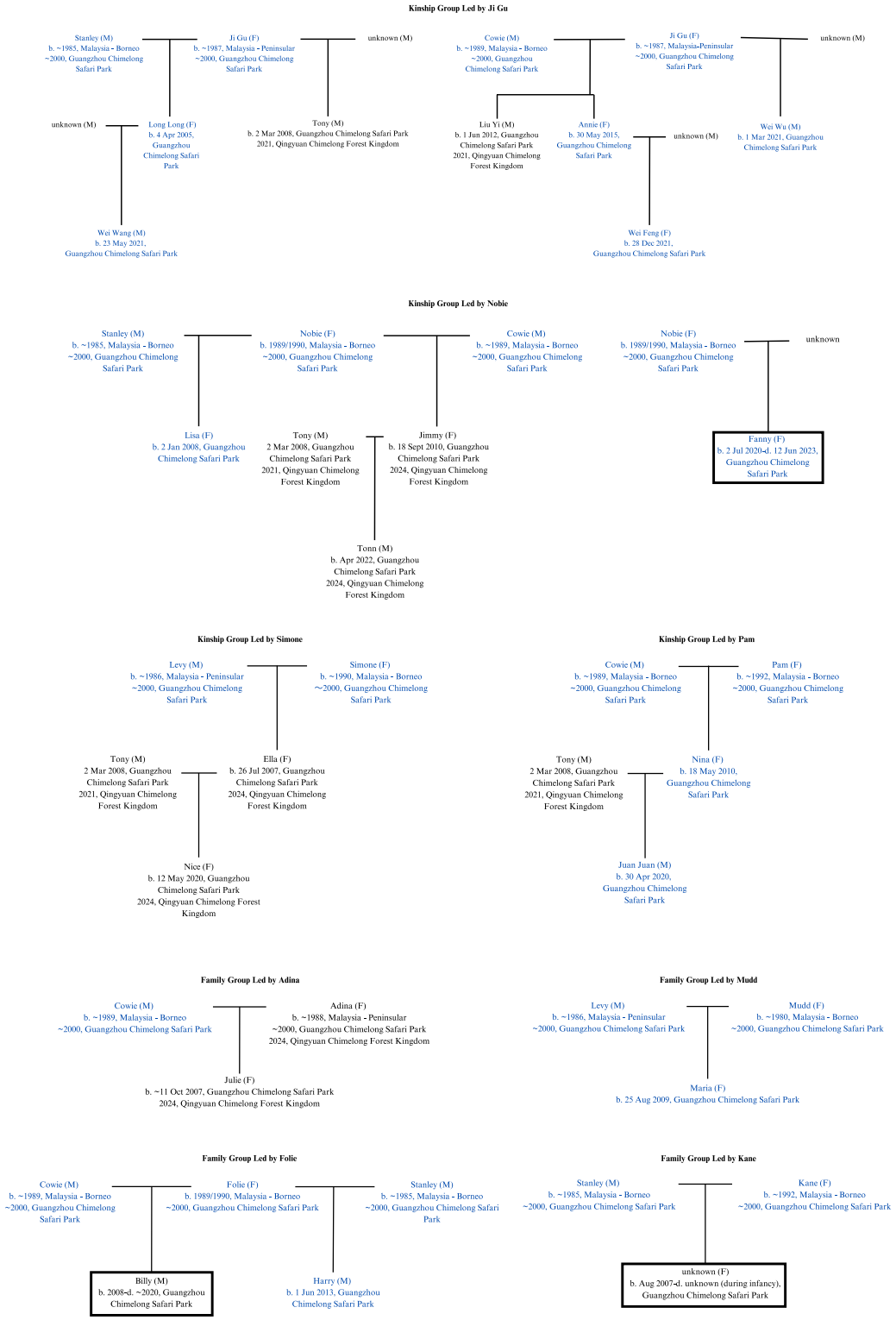

Figure 11. Family and kinship group structures at Guangzhou Chimelong Safari Park.

12. Shenzhen Safari Park

Nine elephants were observed and documented during two visits to the facility on 18 January 2023 and 16 August 2024, as not all individuals were on display outdoors. Ten were known to be present at the facility on the first visit, while one adult elephant was transferred to the Chaoshan Wangtian Lake Wild Animal Zoo around October 2023. Note that Long Long is not the same individual as the one in Guangzhou Chimelong Safari Park. Through captive breeding at Shenzhen Safari Park, three family groups (led by Lu Weng, Guo Shun, and Lu Mai, respectively) have been formed. Figure 12 presents diagrams outlining the structure of the groups, along with profile information for each group member.

During the January 2023 first visit, the adult male A Mai was displayed outdoors, while his eldest son remained in the indoor enclosure and his second son Da Yun had already been transferred to another facility. Around October 2023, A Mai himself had been moved to the Chaoshan Wangtian Lake Wild Animal Zoo. One reason for the transfers was the lack of outdoor exhibits to accommodate multiple males.

There were two types of outdoor exhibits: One close to visitors, with a mostly concrete floor, and another at a higher elevation, farther from public view, which has a soil surface. By the first visit, elephant performances had already been discontinued, though the exact timing was uncertain. Feeding services, however, continued across both visits. Lu Weng and A Mai were observed to be obese, a condition associated with a high intake of treats provided during tourist feeding and/or the limited size of the exhibit, which restricted opportunities for physical activities.

13. Zhengzhou Zoo

Two elephants were observed and documented on 23 and 25 June 2023. Kang and Bu Yang currently have no offspring.

14. Enjoy Animal Kingdom

Two elephants were observed and documented on 24 June 2023. The information on the kinship group to which Ya Long belongs is illustrated in Figure 3.

15. Shijiazhuang Zoo

Five elephants were observed and documented on 26 June 2023. After the visit, one male elephant was born on 6 June 2024. Through captive breeding at Shijiazhuang Zoo, one family

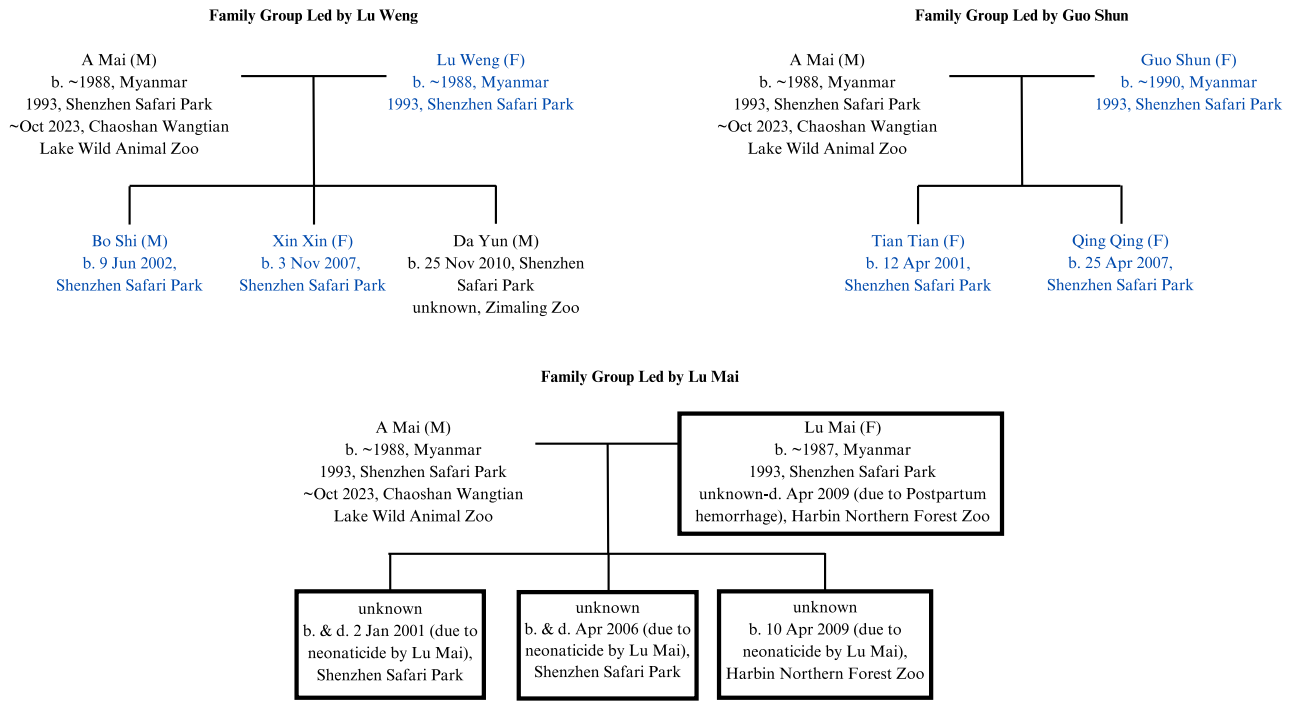

Figure 12. Family and kinship group structures at Shenzhen Safari Park.

group (led by Ao Bao) has been formed. As Ao Bao belongs to the kinship group led by Mo Po at Kunming Zoo, the information on this family has been integrated with the kinship group led by Mo Po described in Figure 3 to better illustrate the lineage.

Na Tu was one of the few male captive elephants in China that could be housed with females and calves in the same indoor enclosure and outdoor exhibit. At present, the facility maintains two outdoor exhibits, one of which is provided to the male Du Wang. As the male Ao Dong grows older, the facility needs to add an independent living area for him, unless he is transferred at an early age.

16. Jinan Zoo

Four elephants were observed and documented on 27 June 2023. Through captive breeding at Jinan Zoo, one family group (led by Sa Kuan) has been formed. Sa Kuan's breeding partner, Ya Kun, is from the kinship group formerly led by Ya Long at Kunming Zoo, and thus the structure of the family, along with profile information for each group member, has been integrated with the kinship group led by Ya Long described in Figure 3 to better illustrate the lineage.

During the visit, Ya Kun and Mai Mang were observed to be overly obese, which is associated with the excessive quantities of food provided by the facility and the limited size of the exhibit, which restricted opportunities for physical activities.

17. Shanghai Zoo

Two elephants were observed and documented on 28 June 2023. Through captive breeding at Shanghai Zoo, one kinship group (led by Ban Na) has been formed. Figure 13 presents the diagram outlining the structure of the group, along with profile information for each group member. During the visit, Duo Duo was observed to be overly obese, which is associated with the excessive quantities of food provided by the facility and insufficient exercise.

18. Shanghai Wild Animal Park

Of the 15 elephants present, nine were observed and documented on 29 June 2023, as not all individuals were on display outdoors. After the visit, one male elephant was transferred from the Park to Hangzhou Zoo in December 2023; one adult male elephant passed away, date unknown; eight were transferred to the park from Wild Elephant Valley in April 2025.

Through the collaborative breeding program between Shanghai Wild Animal Park and Hangzhou Zoo, a family group led by Xiang Dong has been established. Prior to this program, in which Xiang Dong was paired with Nuo Nou, Xiang Dong had previously formed a family with Yi Kun at Kunming Zoo. To better illustrate, the two lineages are now combined under Xiang Dong in one chart. The group structure and individual profiles are presented in Figure 3. During the visit, of the six male elephants at the facility, only Tian Cai and Ya Nu were observed outdoors, and the size of their exhibits

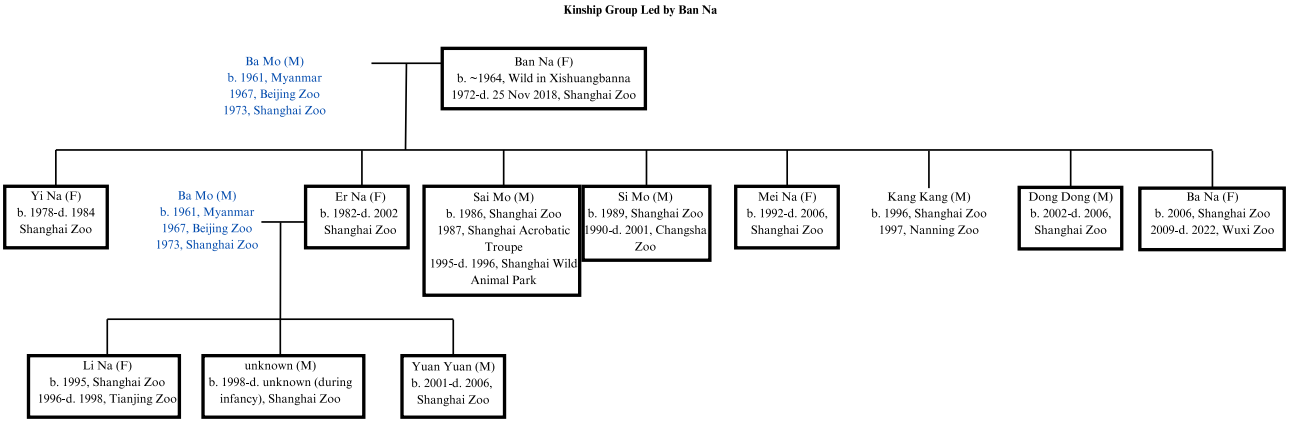

Figure 13. Kinship group structure at Shanghai Zoo.

was particularly limited. The remaining males were kept in indoor enclosures. It appears that the facility has provisioned three outdoor exhibits for male elephants.

19. Hainan Tropical Wildlife Park and Botanical Garden

One elephant was observed and documented on 16 June 2024. At the end of December 2005, Ku En, Xi Guang, Yi Nen, Ge Lan, and Lu La were rescued from illegal trade at the China-Myanmar border by forest police in Yunnan and transferred to this facility for drug withdrawal treatment. Zhuang Bu accompanied them until their departure in 2008. Since then, Zhuang Bu has lived alone for the following 17 years. By the time of the visit, the facility offered feeding activity for tourists.

20. Nanning Zoo

Of the nine elephants present, only one was observed outdoors during the visit on 18 June 2024. This display arrangement has been in place for an extended period. After the visit, one adult male elephant passed away in February 2025.

Through captive breeding at Nanning Zoo, two family groups (led by Ning Ning and Tu Su, respectively) have been formed. Figure 14 presents the diagrams outlining the structures of the groups, along with profile information for each group member. Kang Kang, the breeding partner of Ning and Tu Su, is also a member of the kinship group led by Ban Na at Shanghai Zoo. The information on this kinship group is provided in Figure 13.

21. Guizhou Wildlife Park

Four elephants were observed and documented on 20 June 2024. After the visit, one female elephant was born in August 2024. Through captive breeding at Guangzhou Guizhou Wildlife Park, one family group (led by Bo En) has been formed. Figure 15 presents the diagram outlining the structure of the group, along with profile information for each group member.

By the time of the visit, the facility continued to provide feeding services. Bo En and Xi Lun were observed to remain focused on obtaining food from visitors, while their calf, Li Chun, appeared to be neglected. The adults did not respond to the calf's attention-seeking behaviours.

22. Qingyuan Chimelong Forest Kingdom

Of the nine elephants present, eight were observed, as one adult male was not exhibited outdoors on the day of the visit. Among the eight, two had been previously documented during the visit to Guangzhou Chimelong Safari Park on

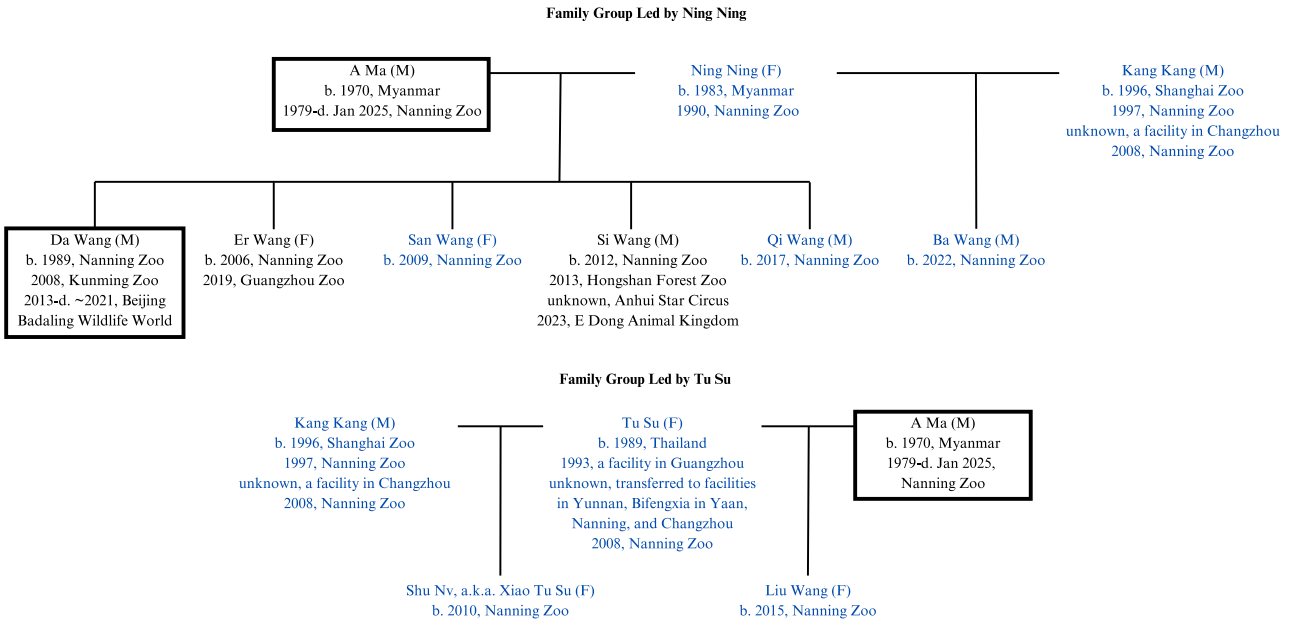

Figure 14. Family group structures at Nanning Zoo.

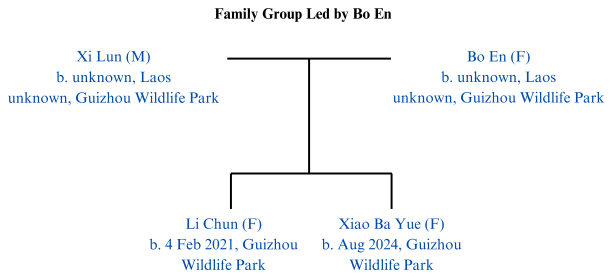

Figure 15. Family group structure at Guizhou Wildlife Park.

16 January 2023; thus, six individuals were newly recorded.

Three family groups (led by Adina, Ella, and Jimmy) are present. They were transferred from Guangzhou Chimelong Safari Park. Ella and Jimmy are from the kinship groups led by Simone and Nobie, respectively. Thus, the structure of the family, along with profile information for each group member, can be seen in Figure 11.

During the visit, the adult male Tuo Ni was observed in the outdoor exhibit, while Liu Yi was kept in the indoor enclosure. The facility staggers their access to the outdoor area so that only one male is outside at a time. This practice is primarily due to fights between Tuo Ni and Liu Yi over dominance. Even if barriers were in place, they would likely still engage in aggressive interactions.

Only one outdoor exhibit is provided for male elephants. Although it is located far from public view, its size appears very finite, as the elephants were observed only pacing or standing in a limited area.

23. Zimaling Zoo

Two elephants were observed and documented on 27 June 2025. The information on the family group to which Da Yun belongs is illustrated in Figure 12. During the visit, the facility provided feeding services. The adult male Da Yun's exhibit was very confined (Fig. 16), where the electric fencing restricted him to repeated circular pacing, indicative of stereotypic behaviours, and resulted in a lack of exercise.

The adult female Duo Mi was observed to remain exclusively within a small area with concrete flooring adjacent to the tourist feeding platform. During hours of observation, she did not move to the three quarters of the exhibit with a red soil substrate and wooden post. Although a small amount of Napier grass was provided once later in the observation, Duo Mi expressed limited interest in eating despite being underfed. Instead, she persisted in a stereotypic circling movement, disrupted only when tourists entered the feeding area. Her body is relatively obese, which is associated with high proportion of treats in the diet and lack of exercise.

24. Chuanlord Fairy Tale Kingdom of Animals

Three elephants were observed and documented on 29 June 2025. No adult male elephant is currently present at Chuanlord Fairy Tale Kingdom of Animals, making it unclear with whom Yu La formed a family and gave birth to her son, Zhuang Zhuang. Nevertheless, to illustrate the group structure and provide known profile information for each member, a diagram is included, although the group may not have formed at this facility (Fig. 17).

During the visit, feeding services were provided to a large number of tourists (Fig. 18). No restrictions were placed on feeding duration, and carrots supplied by tourists constituted the sole food source for the elephants. Yu La exhibited

Figure 16. Adult male elephant Da Yun at Zimaling Zoo.

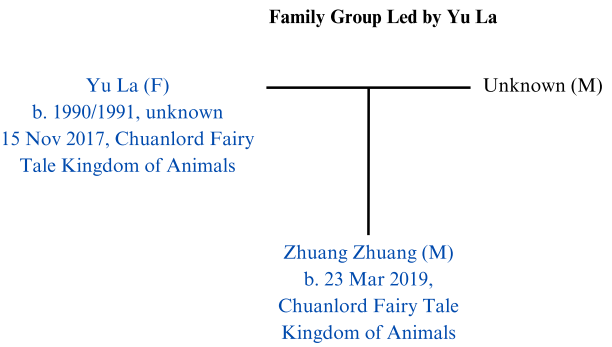

Figure 17. Family group structure at Chuanlord Fairy Tale Kingdom of Animals.

signs of heightened anxiety, demonstrated through stereotypic pacing and food-begging behaviours. She was seldom observed interacting with her six-year-old son, Zhuang Zhuang, except when guarding food, during which she repelled him by whipping when he approached. Moreover, the buffer zone separating elephants and visitors is notably narrow. Visitor interactions are poorly regulated, with minimal supervision or warning against teasing behaviours. Such actions have elicited signs of frustration in the elephants, posing a serious risk to visitor safety.

25. Xishuangbanna Dai Garden and Liuzhou Zoo

Though elephants are no longer kept in Xishuangbanna Dai Garden and Liuzhou Zoo, it can be inferred that at least three males had been housed in Xishuangbanna Dai Garden: Tong Han, Xiao Kang Mien, and Little Golden Dragon, and at least two males had been housed in Liuzhou Zoo: Yan Long and Zhang Bo. Their information, as well as their current location, is presented in Table 3. Individuals other than Tong Han (also listed at Manting Imperial Garden) are not included in the total number of Asian elephants documented, as they were not present during the visit.

Figure 18. Adult female elephant Yu La at Chuanlord Fairy Tale Kingdom of Animals

Discussion

Field investigations have revealed significant concerns regarding the welfare practices and reproductive management of captive Asian elephants in China. This discussion highlights three major issues identified during the visit: Insufficient living areas for bulls; the unregulated practice of tourist feeding; and the inefficiency of current breeding programs.

Insufficient living area for bulls

Due to conflicts for dominance status and the mating behaviours, elephant-keeping facilities need to provide separate living areas (both outdoor exhibits and indoor enclosures) for these male elephants. Moreover, in captivity, the emergence of aggressive and sexual mounting behaviours around the age of four in male elephants presents a challenge for these facilities in reallocating the living areas and adding new ones.

Thus, the limited availability of living space directly affects the welfare of male elephants in captivity. In China, most facilities are equipped

Table 3. Profiles of elephants that once inhabited Xishuangbanna Dai Garden and Liuzhou Zoo.

Name	Current location	Date of birth	Age	Origin
Tong Han	Manting Imperial Garden	~1994	Adult	Laos
Xiao Kang Mien	Changde Wildlife World	Unknown	Adult	unknown
Little Golden Dragon (formerly named Liu Yi)	Changde Wildlife World	1 Jun 1999	Adult	Chengdu Zoo
Yan Long	Dezhou Zoological and Botanical Garden	Unknown	Adult	unknown
Zhang Bo	Probably deceased at Liuzhou Zoo	Unknown	Adult	Thailand

with either one indoor enclosure and outdoor exhibit or multiple indoor enclosures and no more than two outdoor exhibits for males in need of independent spaces. Consequently, additional male elephants are transferred to other facilities, sometimes at a very early age, or confined indoors for extended periods, away from public view.

One factor contributing to the disproportion between male elephants and available outdoor exhibits is the historical practice of elephant performances in some facilities. During the day, male elephants could remain in the designated performance areas. Following the discontinuation of such performances, these males – lacking outdoor exhibits – were either transferred or confined indoors. Another factor is the increase in male elephant populations resulting from breeding within these facilities.

Most facilities visited do not open public access to indoor enclosures, so no records were made during the trip regarding their sizes. Yet, it can be concluded that the outdoor exhibit at most facilities visited falls far below the minimum standard of 154 m^2 recommended in the "Guidelines on the Management and Welfare of Captive Asian Elephants Used in Tourism" (Roberts *et al*. 2022). Restricted exhibit areas may contribute to the development of stereotypic behaviours and have a significant positive correlation with obesity (Tang *et al*. 2024).

Therefore, it is proposed that the relevant administrative departments establish a minimum standard for the size of bull living areas. Facilities that do not meet this requirement should expand their living area and allow every male elephant to freely access both the indoor enclosure and the outdoor exhibit. Otherwise, these elephants should be transferred to facilities with sufficient space to accommodate them. Additionally, the relevant departments should set a minimum age for out-transfer of bulls, and, if needed, facilities must provide independent living areas for males below this age.

In parallel, the management capacity of elephant keepers should be enhanced through targeted training, with particular emphasis on managing bulls with relatively aggressive temperaments, enabling multiple males to be released into their corresponding outdoor exhibits in the meantime.

Unregulated practice of tourist feeding

Feeding the elephant is the most common paid service offered by elephant-keeping facilities in China. As a significant source of revenue, particularly for privately owned institutions, many facilities prioritise maximising tourist participation, often at the expense of elephant welfare. This is primarily achieved through three means: replacing fodder with treats, disrupting dietary plan, and inappropriate exhibit design.

The feeding baskets or sticks provided to tourists typically consist of treats such as carrots, apples, bananas, and cucumbers. In the absence of regulations limiting the quantity of treats provided, these items have, in some cases, become the primary or even sole food source for the elephants during the day. This dietary imbalance poses considerable health risks, particularly due to deficiencies in essential nutrients such as fibre from roughage like elephant grass.

More severely, the diet plan is changed to encourage tourist feeding. Specifically, the provision of fodder is deliberately reduced, thereby coercing the elephants into maintaining attention on visitors. This manipulation of dietary needs by introducing hunger undermines the natural behavioural expression and promotes stereotypical behaviours. Affected individuals remain in close proximity to visitors for a long time, engaging in food-begging behaviour such as raising their trunks in the direction of the visitors. Their movements are often limited to standing still or pacing along a repetitive path to ensure immediate responsiveness to approaching tourists.

Food deprivation may induce a state of heightened anxiety, wherein the elephant becomes narrowly fixated on receiving food from visitors while exhibiting numbness to other environmental stimuli.

Such anxiety can be particularly detrimental to elephants' highly social nature, as it suppresses healthy social interactions and distorts the so-

cial learning processes critical to calf development.

In addition to the disrupted diet plan, the exhibit design of the feeding area, including full concrete substrates, lack of enrichment, and narrow buffer zone, further compromises elephant welfare and presents significant safety risks. No rules have been informed, and teasing behaviours from tourists are rarely cautioned against, which has been observed to induce frustration in elephants.

Therefore, it is proposed that the relevant administrative departments should prohibit tourist feeding to safeguard both the fundamental welfare of captive elephants and the safety of visitors.

Inefficiency of current breeding programs

Unlike previous years, only two officially reported births have occurred in China's captive Asian elephant population in 2025. This stagnation occurs despite a number of individuals being in reproductive age. Breeding opportunities remain limited due to facility-level decision-making. As a result, many elephants in their reproductive age have not been afforded the opportunity to breed. Notable examples include Zhuang Bu (Hainan Tropical Wildlife Park and Botanical Garden), Mo Fang (Enjoy Animal Kingdom), Ya Nan (Manting Imperial Garden), Da Yun (Zimaling Zoo), Anna (Guizhou Wildlife Park), Bo Bo (Chongqing Zoo), Xiao Xiao (Chongqing Zoo), and Du Wang (Shijiazhuang Zoo). Among them, in the facilities where Zhuang Bu, Mo Fang, Bo Bo, and Xiao Xiao are housed, there are no other reproductively compatible individuals. Du Wang has been unsuccessful in competing with Na Tu for access to the breeding females, while Anna's mating attempt was rejected by Xi Lun.

These cases raise concerns that the reproductive potential of this population is overlooked, thereby hindering the effective utilisation of valuable genetic resources critical to sustaining the captive population in China. Moreover, pairs like Mo Guo and Guo Zha, which have not produced offspring despite cohabiting for over 13 years, should be re-evaluated and considered for reassignment.

Therefore, it is proposed that the relevant department assume a centralised role in managing the population of breeding age. Government-led coordination would be instrumental in dismantling existing barriers between the facilities. This approach is essential for optimising reproductive success and supporting the long-term conservation of the species in China.

Conclusion

It is recommended that, in the future, provincial-level facilities be established in suburban areas to provide expansive habitats for captive elephants. Such environments would enable individuals to remain within family or kinship units and express natural behaviours. Additionally, these facilities could serve as platforms for effective public education, fostering an accurate understanding of the species and promoting conservation efforts.

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