

丰度附录

类人猿种群丰度估计

这一附录按地点介绍类人猿丰度估计。“地点”这个术语指的是一个保护区及其缓冲带，一个或一组伐木特许经营区，或者过去20年曾经做过调查的任何明确区域。不过，这个附录也列出了最近一次调查是20世纪70和80年代的几个地点。

大多数估计依据经同行审查的出版物和灰色文献；一些灰色文献经实地专家重新确认。在表格中，一些标明了“调查年”，指的是在实地实际收集数据的年份；一些使用“估计年份”，指的是做出统计预计的年份。由于类人猿的绝对数字的记录一般无法获得，这份附录使用丰度等级代表种群分布区，见表1的定义。

表1

丰度等级定义

丰度等级	等级定义
≤ 50	最多50只个体
51 - 100	51 - 100只个体
101 - 300	101 - 300只个体
301 - 500	301 - 500只个体
501 - 1,000	501 - 1,000只个体
1,001 - 5,000	1,001 - 5,000只个体
5,001 - 10,000	5,001 - 10,000只个体
10,001 - 20,000	10,001 - 20,000只个体
20,001 - 50,000	20,001 - 50,000只个体
50,001 - 100,000	50,001 - 100,000只个体
>100,000	超过100,000只个体
存在	确认存在；种群规模未知
灭光	类人猿在当地已经灭光
可能绝灭	类人猿在全国“可能绝灭” (IUCN, 2015)
绝灭	类人猿“区域性绝灭” (IUCN, 2015)

在以下表格中，在丰度一栏的星号表示哪个类人猿种群稳定(*), 哪个类人猿种群增加(**)。不过，大多数类人猿种群都在衰退，或者种群趋势不明确。

粗体字地点名称是世界自然保护联盟物种存续委员会灵长类专家组确定的非洲类人猿保护优先重要地点。这一优先级别是根据现有最佳数据确定的，但是，作者认识到，一些地区的数据可能不完整。猩猩和长臂猿的优先重要地点尚未确定。

缩写词、缩略词和参考文献，见这份附录的末尾。

表5和9注释：大猩猩的分布区常常和黑猩猩重叠，意思是它们占用同样的地理分布区。调查大型类人猿的生物学家通常数它们的巢代表有多少类人猿；在大猩猩和黑猩猩分布区重叠的区域，并不总是能够确定每个巢是哪个物种的¹。另有一栏列出了每个丰度估计代表的物种数量，显示为“1”（表5中的大猩猩，表9中的黑猩猩）或“2”（大猩猩和黑猩猩一起计数，合并作为“类人猿”数量）。

这些表中的地点列表不全，因为不是所有的类人猿种群都有丰度估计。如要告知我们任何错误或遗漏，请联系A.P.E.S. 数据库经理（电子邮件：apes@eva.mpg.de）。更新将通过A.P.E.S. Portal网站 (<http://apesportal.eva.mpg.de>) 以数字版的形式和在后续的《类人猿现状》出版物中提供。

表2

山地大猩猩 (*Gorilla beringei beringei*) 丰度估计

国家	地点名称	丰度	调查年	来源
刚果民主共和国 (刚果(金))	维龙加国家公园	**604	2015-2016	Greater Virunga Transboundary Collaboration (2018)
卢旺达	火山国家公园			
乌干达	Mgahinga大猩猩国家公园			
	布温迪不可穿越国家公园	**400	2010	Roy <i>et al.</i> (2014)

注: The Greater Virunga Transboundary Collaboration (大维龙加跨国协作机制) 迄今只发布了维龙加山密 (Virunga Massif) 山地大猩猩的总只数, 涵盖表中刚果(金)、卢旺达和乌干达三国的国家公园。

两个星星(**)代表类人猿种群数量在增长。

表3

格劳尔大猩猩 (*Gorilla beringei graueri*) 丰度估计

国家	地点名称	丰度等级	调查年	来源
刚果(金)	Balala	绝灭	2011 - 15	Plumptre <i>et al.</i> (2015)
	Forêts pour le Développement Intégral (FODI)	≤ 50	2011 - 15	Plumptre <i>et al.</i> (2015)
	Itombwe	51 - 100	2011 - 15	Plumptre <i>et al.</i> (2015)
	Kahuzi-Biega Tshivanga	101 - 300	2011 - 15	Plumptre <i>et al.</i> (2015) Spira <i>et al.</i> (2016)
	Kahuzi-Biega Itebero-Lulingu	501 - 1,000	2011 - 15	Plumptre <i>et al.</i> (2015) Spira <i>et al.</i> (2016)
	Kahuzi-Biega Nzovu	101 - 300	2011 - 15	Plumptre <i>et al.</i> (2015)
	Kahuzi-Biega Kasese	101 - 300	2011 - 15	Plumptre <i>et al.</i> (2015)
	Kisimba-Ikobo	501 - 1,000	2011 - 15	Plumptre <i>et al.</i> (2015)
	Maiko (包括Lubutu和Angumu)	101 - 300	2011 - 17	FFI and ICCN, 未发表的数据, 2016 - 2017
	Réserve de Gorilles de Musingiti et Kingombe (REGOMUKI)	101 - 300	2011 - 15	Plumptre <i>et al.</i> (2015)
	Réserve des Gorilles de Punia (RGPU) north	101 - 300	2011 - 15	Plumptre <i>et al.</i> (2015)
	RGPU east	绝灭	2011 - 15	Plumptre <i>et al.</i> (2015)
	Tayna大猩猩保护区	101 - 300	2011 - 15	Plumptre <i>et al.</i> (2015)
	Usala	501 - 1,000	2011 - 15	Plumptre <i>et al.</i> (2015)
	维龙加国家公园 (Mt. Tshiaberimu)	6只个体	2015	Plumptre <i>et al.</i> (2015)
	Walikale	501 - 1,000	2010	Nixon <i>et al.</i> (2012)
	全国	1,001 - 5,000	2011 - 15	Plumptre <i>et al.</i> (2015)

表4

克罗斯河大猩猩 (*Gorilla gorilla diehli*) 丰度估计

国家	地点名称	丰度等级	调查年	来源
喀麦隆	Ebo拟议国家公园	≤ 50	2007	Morgan (2010)
	Kagwene大猩猩养护所	≤ 50	2006-2008	De Vere <i>et al.</i> (2011)
	Mbulu森林	≤ 50	2008	Warren and Bila (2008)
	Mone River Forest Reserve (FR) east	≤ 50	2008	Warren <i>et al.</i> (2008)
	Takamanda国家公园	≤ 50	2013	Kuchambi and Ikfuingei (2014)
	Tofala Hills	≤ 50	2012	Dunn <i>et al.</i> (2014)
尼日利亚	Afi山野生动物养护所	≤ 50	2012	Dunn <i>et al.</i> (2014)
	克罗斯河国家公园Boshi延伸带	≤ 50	2009	Imong, Mengnjo and Okeke (2009)
	克罗斯河国家公园Okwangwo分部	≤ 50	2012	Dunn <i>et al.</i> (2014)
	Mbeili	≤ 50	2012	Dunn <i>et al.</i> (2014)

表5

西非低地大猩猩 (*Gorilla gorilla gorilla*) 丰度估计

国家	地点名称	丰度等级	物种数量	调查年	来源
安哥拉	Maiombe (Cabinda)	存在	2	不详	IUCN (2014)
喀麦隆	Boumba-Bek国家公园	1,001 – 5,000	1	2015	Nzooch <i>et al.</i> (2016b)
	Boumba-Bek国家公园北部森林管理单元(包括10-020至10-023, 10-029和10-030)	1,001 – 5,000	1	2015	Nzooch <i>et al.</i> (2016b)
	Campo Ma'an (Dipikar Island)	301 – 500	1	2014 – 15	Nzooch <i>et al.</i> (2015)
	Campo Ma'an国家公园(北)	301 – 500	1	2014 – 15	Nzooch <i>et al.</i> (2015)
	Campo Ma'an – 运营技术单元(所有景观层的和)	501 – 1,000	1	2014 – 15	Nzooch <i>et al.</i> (2015)
	登登森林管理单元10-065	*301 – 500	1	2012	Maisels <i>et al.</i> (2013a)
	登登国家公园	*101 – 300	1	2012	Maisels <i>et al.</i> (2013a)
	Dja生物圈(或动物)保护区	5,001 – 10,000	1	2015	MINFOF and UICN (2015)
	森林管理单元09-021	51 – 100	1	2014 – 15	Nzooch <i>et al.</i> (2015)
	森林管理单元09-024	≤ 50	1	2008	Nzooch <i>et al.</i> (2015)
	森林管理单元09-025	51 – 100	1	2014 – 15	Nzooch <i>et al.</i> (2015)
	森林管理单元10-007, ZIC 28	1,001 – 5,000	2	2014 – 15	Nzooch <i>et al.</i> (2016a)
	森林管理单元10-009和10-010, ZIC 29	1,001 – 5,000	2	2014 – 15	Nzooch <i>et al.</i> (2016a)
	森林管理单元10-011, ZICGC 1	1,001 – 5,000	2	2014 – 15	Nzooch <i>et al.</i> (2016a)
森林管理单元10-012, ZIC 30	1,001 – 5,000	2	2014 – 15	Nzooch <i>et al.</i> (2016a)	

国家	地点名称	丰度等级	物种数量	调查年	来源
	森林管理单元10-013, ZICGC 2	1,001 – 5,000	2	2014 – 15	Nzooch <i>et al.</i> (2016a)
	森林管理单元10-015	1,001 – 5,000	1	2015	Nzooch <i>et al.</i> (2016b)
	森林管理单元10-027和10-028	501 – 1,000	1	2015	Nzooch <i>et al.</i> (2016b)
	森林管理单元10-032和10-067	1,000 – 5,000	1	2015	Nzooch <i>et al.</i> (2016b)
	森林管理单元10-038	1,001 – 5,000	1	2001	Etoga (2001)
	森林管理单元10-039	存在	1	2001	Etoga (2002)
	森林管理单元10-047 ^a	301 – 500	1	2007	Bombome (2007)
	森林管理单元10-063, ZICGC 3	1,001 – 5,000	1	2014 – 15	Nzooch <i>et al.</i> (2016a)
	森林管理单元10-064, ZIC 31	1,000-5,000	1	2014 – 15	Nzooch <i>et al.</i> (2016a)
	Lobéké国家公园	1,001 – 5,000	1	2014 – 15	Nzooch <i>et al.</i> (2016a)
	Mengamé大猩猩养护所	1,001 – 5,000	1	2006	Ekobo (2006)
	Nanga-Eboko森林	存在	1	2002	Fotso, Eno Nku and Groves (2002)
	Ngoyla Mintom Complex	5,001 – 10,000	1	2015	Nzooch <i>et al.</i> (2016b)
	Nki国家公园	1,001 – 5,000	1	2015	Nzooch <i>et al.</i> (2016b)
	Sanaga-Yong	存在	1	2002	Fotso <i>et al.</i> (2002)
	ZICGC 9	存在	1	2007	Mahop (2007)
中非共和国	Dzanga国家公园	101 – 300	1	2015 – 16	N’Goran, Ndomba and Beukou (2016)
	Dzanga-Sangha特别保护区	1,001 – 5,000	1	2015 – 16	N’Goran <i>et al.</i> (2016)
	Dzanga-Sangha景观 (各层合计)	1,001 – 5,000	1	2015 – 16	N’Goran <i>et al.</i> (2016)
	Ndoki国家公园	501 – 1,000	1	2015 – 16	N’Goran <i>et al.</i> (2016)
	SINFOCAM特许经营区	501 – 1,000	1	2015 – 16	N’Goran <i>et al.</i> (2016)
	Société de transformation de bois en Centrafrique (STBC特许经营区)	501 – 1,000	1	2015 – 16	N’Goran <i>et al.</i> (2016)
刚果 (金)	Maiombe	灭光	1	不详	IUCN (2015)
赤道几内亚	全国	1,001 – 5,000	1	2011	Murai <i>et al.</i> (2013)
加蓬	Bambidie	101 – 300	1	2012	Haurez <i>et al.</i> (2014)
	Batéké Plateau国家公园	存在	2	2005 – 06	Bout (2006)
	Birougou国家公园	501 – 1,000	2	2006 – 07	Aba’a and Bezangoye (2007)
	Djouah-Zadie	1,001 – 5,000	2	2016	Le-Duc Yeno & N’Goran (2016)
	Evaro	存在	2	2005	Latour (2005)
	Ivindo特许经营区	501 – 1,000	2	2010	Motsaba and Maisels (2010)
	Ivindo国家公园	1,001 – 5,000	2	2009	Motsaba <i>et al.</i> (2009)

国家	地点名称	丰度等级	物种数量	调查年	来源
	Loango国家公园	301 – 500	2	2006	Maisels (2009)
	Lopé国家公园	1,001 – 5,000	2	2008 – 09	Bezangoye and Maisels (2010)
	Lopé-Waka廊道	1,001 – 5,000	2	2007	Maisels, Abitsi and Bezangoye (2008)
	Mayombe	1,001 – 5,000	2	2011	Aba'a <i>et al.</i> (2011)
	Mayumba国家公园	*存在	2	2006 – 10	Makaya (2010)
	Minkébé国家公园	**存在	2	2012 – 13	ANPN (2013)
	Monts de Cristal国家公园	存在	2	2005	Aba'a (2006)
	Moukalaba Doudou国家公园	存在	2	2010	Nakashima <i>et al.</i> (2013)
	Mwagna国家公园	**存在	2	2012	Maisels and Ella Akou (2013)
	Waka国家公园	存在	2	2005 – 06	Abitsi (2006)
	Wonga Wongué	存在	2	2011	Motsaba and Aba'a (2011)
刚果共和国 (刚果(布))	Bailly Swamps	10,001 – 20,000	1	2010	Maisels <i>et al.</i> (2012)
	Batanga	*1,001 – 5,000	1	2012	Iyenguet <i>et al.</i> (2012)
	Batéké森林	501 – 1,000	1	2012	Tolisano <i>et al.</i> (2013)
	Conkouati-Douli国家公园	1,001 – 5,000	2	2013	Vanleeuwe (2014)
	Dimonika生物圈保护区	101 – 300	1	2009	Pintea <i>et al.</i> (2012)
	Djoua-Ivindo森林	5,001 – 10,000	1	2014 – 15	Allam <i>et al.</i> (2016)
	Impfondo	存在	1	2008	Iyenguet <i>et al.</i> (2008)
	Kabo	*5,001 – 10,000	1	2010	Maisels <i>et al.</i> (2012)
	Lac Tété社区保护区	*10,001 – 20,000	1	2011	Maisels <i>et al.</i> (2012)
	Lossi大猩猩养护所	存在	1	2006	Bassouama <i>et al.</i> (2006)
	Loundougou	5,001 – 10,000	1	2010	Maisels <i>et al.</i> (2012)
	Messok-Dja	1,000 – 5,000	1	2015 – 16	Allam <i>et al.</i> (2017)
	Mokabi	301 – 500	1	2006	Stokes <i>et al.</i> (2010)
	Ngombe	*50,001 – 100,000	1	2014	Maisels <i>et al.</i> (2015)
	Nouabalé -Ndoki国家公园	*1,001 – 5,000	1	2010	Maisels <i>et al.</i> (2012)
	Ntokou-Pikounda国家公园	5,001 – 10,000	1	2014	Maisels <i>et al.</i> (2015)
	Odzala-Koukoua国家公园	20,001 – 50,000	1	2012	Maisels <i>et al.</i> (2013b)
	Pokola	*10,001 – 20,000	1	2010	Maisels <i>et al.</i> (2012)
	Tanga	1,001 – 5,000	2	2009	Malanda, Iyenguet and Madzoke (2010)

注: 一个星星(*)代表这个类人猿种群稳定; 两个星星(**)代表这个类人猿种群数量在增长。“物种数量”(种数)说明丰度估计是只针对大猩猩的(1), 还是大猩猩和黑猩猩两者都有(2)。

表6

倭黑猩猩 (*Pan paniscus*) 丰度估计

国家	地点名称	丰度等级	调查年	来源
刚果 (金)	Lac Tumba Bolobo	51 - 100	不详	IUCN and ICCN (2012)
	Lac Tumba Bolombo-Losombo	存在	2005	Inogwabini <i>et al.</i> (2007)
	Lac Tumba Botuali-Ilombe	存在	2005	Inogwabini <i>et al.</i> (2007)
	Lac Tumba Botwali	51 - 100	2004	IUCN and ICCN (2012)
	Lac Tumba Lediiima Reserve	51 - 100	2004	IUCN and ICCN (2012)
	Lac Tumba Malebo	1,001 - 5,000	2005	Inogwabini <i>et al.</i> (2007)
	Lac Tumba Mbala-Donkese	≤ 50	2005	Inogwabini <i>et al.</i> (2007)
	Lac Tumba Mbie Mokele	51 - 100	2006	IUCN and ICCN (2012)
	Lac Tumba Monieke-Bokote	存在	2006	IUCN and ICCN (2012)
	Lac Tumba Mpelu, Nkala/Nkoo, Lokoso and Mankere	≤ 50	2011 - 13	Serckx (2014)
	Lac Tumba Mpoka	存在	2009	IUCN and ICCN (2012)
	Lac Tumba Ngombe-Botuali	101 - 300	2005	Inogwabini <i>et al.</i> (2007)
	Lac Tumba Nkosso	存在	2006	IUCN and ICCN (2012)
	Lubefu	存在	2010	IUCN and ICCN (2012)
	Maringa-Lopori-Wamba landscape Bilya-Iyondje	存在	2009	IUCN and ICCN (2012)
	Maringa-Lopori-Wamba landscape Boseka-Bokungu	51 - 100	2008	IUCN and ICCN (2012)
	Maringa-Lopori-Wamba landscape Cadjobe	301 - 500	2009	Reinartz and Guislain (2010)
	Maringa-Lopori-Wamba landscape Iyondji Reserve	301 - 500	2012	Lushimba, Kasalevo and Fowler (2012)
	Maringa-Lopori-Wamba landscape K7	存在	2010	IUCN and ICCN (2012)
	Maringa-Lopori-Wamba landscape Kokolopori	301 - 500	2004 - 05	IUCN and ICCN (2012)
	Maringa-Lopori-Wamba landscape Lingomo	51 - 100	2008	IUCN and ICCN (2012)
	Maringa-Lopori-Wamba landscape Lomako-Yokakola Faunal Reserve	1,001 - 5,000	2015	Levo <i>et al.</i> (2015)
	Maringa-Lopori-Wamba landscape Lonua	存在	2006	IUCN and ICCN (2012)
	Maringa-Lopori-Wamba landscape Luo	51 - 100	2003 - 05	IUCN and ICCN (2012)
	Maringa-Lopori-Wamba landscape Mompono-Bekumolokole	51 - 100	2008	IUCN and ICCN (2012)
	Maringa-Lopori-Wamba landscape Mompono-Yaama	51 - 100	2008	IUCN and ICCN (2012)
Maringa-Lopori-Wamba landscape Samba	51 - 100	2007	IUCN and ICCN (2012)	

国家	地点名称	丰度等级	调查年	来源
	Salonga landscape corridor	存在	2007 - 08	Maisels <i>et al.</i> (2009)
	Salonga landscape Ikela-Bokungu	存在	2008	IUCN and ICCN (2012)
	Salonga landscape Lokoro-Lukenie	存在	2006 - 07	IUCN and ICCN (2012)
	Salonga landscape Lotoi-Lokoro	存在	2006 - 07	IUCN and ICCN (2012)
	Salonga landscape LuiKotala-Bompusa	≤ 50	2012	IUCN and ICCN (2012)
	Salonga landscape Lukenie-Sankuru	存在	2006 - 07	IUCN and ICCN (2012)
	Salonga landscape Lukuru	51 - 100	1994 - 95	IUCN and ICCN (2012)
	Salonga landscape Yetsi-Ikela	51 - 100	2008	IUCN and ICCN (2012)
	Salonga NP Beminyo	101 - 300	2000 - 02	Reinartz <i>et al.</i> (2006)
	Salonga NP Bonima	存在	2000 - 02	Reinartz <i>et al.</i> (2006)
	Salonga NP southeast	存在	2007 - 08	Maisels <i>et al.</i> (2010)
	Salonga NP Lokofa	1,001 - 5,000	2015	WCS (2015)
	Salonga NP Lomela	1,001 - 5,000	2016	Ikati, Liengola and Maisels (2017)
	Salonga NP south	5,001 - 10,000	2003 - 06	Grossmann <i>et al.</i> (2008)
	Salonga NP Watsi-Kengo and Mondjoko sectors combined	5,001 - 10,000	2016 - 17	Reinartz <i>et al.</i> (2017)
	Sankuru自然保护区	存在	2009	Liengola <i>et al.</i> (2009)
	Tshuapa-Lomami-Lualaba	5,001 - 10,000	2008 - 10	IUCN and ICCN (2012)

表7

黑猩猩尼喀亚种(*Pan troglodytes ellioti*)丰度估计

国家	地点名称	丰度等级	调查年	来源
喀麦隆	Ako-Mbembe森林保护区	存在	2005	Morgan <i>et al.</i> (2011)
	Assaka森林	存在	2006	Ekinde and Ashu (2006)
	Bafut-Ngemba森林保护区	灭光	2011	Ellioti.org (n.d.)
	Bakossi国家公园	存在	2009	Fonkwo, Angwafo and Mbida (2011)
	Banyang-Mbo野生动物养护所	501 - 1,000	2006 - 07	Greengrass and Maisels (2007)
	Ebo拟议国家公园	501 - 1,000	2011	Morgan <i>et al.</i> (2011)
	Ejagham森林保护区	存在	2003	Eno Nku (2003a)
	Etinde野生动物保护区	51 - 100	2003	Eno Nku (2004b)
	森林管理单元00-004	51 - 100	2007	Ellioti.org (n.d.)
	森林管理单元11-002	灭光	2003	Eno Nku (2003b)

国家	地点名称	丰度等级	调查年	来源
	Fungom森林保护区	存在	2004	Ekinde, Ashu and Sunderland-Groves (2005)
	Kom-Wum森林保护区	≤50	2014	O. Ndoumbe, 未发表的数据, 2017
	Korup国家公园	51 - 100	2015	M. Waltert, A. Binczik and K.S. Bobo, 未发表的数据, 2015
	Lake Barombi Mbo森林保护区	存在	2004	Morgan <i>et al.</i> (2011)
	Mak-Betefou-Nkingkuoe	51 - 100	2011	Ellioti.org (n.d.)
	Makombe森林	存在	不详	WWF (2003)
	Manb'ra	存在	1997	Ellioti.org (n.d.)
	Mbam et Djerem国家公园	301 - 500	2008 - 09	Maisels <i>et al.</i> (2009)
	Mbulu森林	存在	2008	Warren and Bila (2008)
	Mone River森林保护区	101 - 300	2007	Warren and Ekinde (2008)
	Mpen & Njim国家公园	存在	2011	Ellioti.org (n.d.)
	Mt. Cameroon国家公园	存在	2007	Eno Nku and Ekobo (2007)
	Mt. Kupe	存在	2009	Fonkwo <i>et al.</i> (2011)
	Mt. Nlonako野生动物保护区	51 - 100	2005	Ellioti.org (n.d.)
	Nkwende Hills	灭光	2002	Bobo, Ntumwel and Aghomo (2013)
	Nta Ali森林保护区	存在	2005	Morgan <i>et al.</i> (2011)
	Rumpi Hills	存在	2005	Morgan <i>et al.</i> (2011)
	South Bakundu森林保护区	灭光	2004	Eno Nku (2004a)
	Takamanda国家公园	存在	2013	Kuchambi and Ikfuingei (2014)
	Tubah-Awing森林	≤50	2011	Ellioti.org (n.d.)
Vome森林	存在	2008	Ellioti.org (n.d.)	
尼日利亚	Afi山野生动物养护所	存在	2009	Imong, Wood and Okeke (2009)
	Afi河森林保护区	存在	2009	Imong, Wood and Okeke (2009)
	Ago-Owu森林保护区	存在	2005	Ogunjemite <i>et al.</i> (2006)
	Akure-Ofosu森林保护区	存在	2012	Ikemeh (2013)
	Ala森林保护区	灭光	2006	Greengrass (2006)
	克罗斯河国家公园奥班分部	101 - 300	不详	A. Dunn and I. Imong, 个人沟通, 2015
	克罗斯河国家公园Okwangwo分部	101 - 300	不详	A. Dunn and I. Imong, 个人沟通, 2015
	Eba森林保护区	存在	2004 - 05	Ogunjemite (2011)
	Eti-Oni森林保护区	存在	2004 - 05	Ogunjemite (2011)

国家	地点名称	丰度等级	调查年	来源
	Gashaka-Gumti国家公园	501 – 1,000	2005	Adanu, Sommer and Fowler (2011)
	Idanre森林保护区	51 – 100	2013	Ikemeh (2013)
	Ifon森林保护区	存在	2006	Greengrass (2006)
	Ila森林保护区	存在	2011	Ogunjemite (2011)
	Ise森林保护区	≤ 50	2012	Ikemeh (2013)
	Mbeila	存在	2009	Imong and Okeke (2009)
	Oba Hills森林保护区	灭光	2006	Greengrass (2006)
	Ogbesse森林保护区	灭光	2006	Greengrass (2006)
	Ogotun森林保护区	存在	2006	Greengrass (2006)
	Okeluse森林保护区	存在	2004	Ogunjemite (2011)
	Okomu国家公园	存在	2006	Greengrass (2006)
	Ologbo森林保护区	存在	2006	Greengrass (2006)
	Oluwa森林保护区	存在	2012	Olaniyi, Ogunjemite and Dansu (2014)
	Omo森林保护区	存在	2006	Greengrass (2006)
	Onisere森林保护区	存在	2004 – 05	Ogunjemite (2011)
	Owo森林保护区	存在	2004 – 05	Ogunjemite (2011)
	Shasha森林保护区	存在	2006	Greengrass (2006)

表 8

黑猩猩东非亚种(*Pan troglodytes schweinfurthii*)丰度估计

国家	地点名称	丰度等级	调查年	来源
布隆迪	Bururi森林保护区	≤ 50	2006 – 07	Barakabuye <i>et al.</i> (2007)
	Kibira国家公园	301 – 500	2011 – 13	Hakizimana and Huynen (2013)
	Rumonge森林保护区	≤ 50	1989	Anonymous (1989)
	Vyanda森林保护区	≤ 50	1989	Anonymous (1989)
中非共和国	Bangassou	灭光	2004	Williamson <i>et al.</i> (2004)
	Chinko国家保护区	101 – 300	2015	Aebischer <i>et al.</i> (2017)
	Zemongo动物保护区	501 – 1,000	2009	Plumptre <i>et al.</i> (2010)
刚果 (金)	Balala	绝灭	2011 – 15	Plumptre <i>et al.</i> (2015)
	Bili-Uélé (比利-韦莱)	20,001 – 50,000	2009	Plumptre <i>et al.</i> (2010)
	FODI	101 – 300	2011 – 15	Plumptre <i>et al.</i> (2015)

国家	地点名称	丰度等级	调查年	来源
	Greater Virunga Semuliki	1,001 – 5,000	2007	Plumptre, Kujirakwinja and Matunguru (2008a)
	Itombwe	101 – 300	2012	Plumptre <i>et al.</i> (2015)
	Ituri landscape Mai-Tatu (部分)	501 – 1,000	2015	WCS DRC, 未发表的数据, 2015
	Ituri Okapi动物保护区	5,001 – 10,000	2010 – 11	Vosper, Masselink and Maisels (2013)
	Kahuzi-Biega Itebero-Lulingu	501 – 1,000	2011 – 15	Plumptre <i>et al.</i> (2015)
	Kahuzi-Biega Itebero	1,001 – 5,000	2015	Spira <i>et al.</i> (2017)
	Kahuzi-Biega Kasese	≤ 50	2011 – 15	Plumptre <i>et al.</i> (2015)
	Kahuzi-Biega Nzovu	501 – 1,000	2011 – 15	Plumptre <i>et al.</i> (2015)
	Kahuzi-Biega Tshivanga	≤ 50	2011 – 15	Plumptre <i>et al.</i> (2015)
	Lubutu	51 – 100	2011 – 15	Plumptre <i>et al.</i> (2015)
	Maganja Hills	101 – 300	2009	Plumptre <i>et al.</i> (2010)
	Maiko 国家公园	51 – 100	2011 – 15	Plumptre <i>et al.</i> (2015)
	Misotshi-Kabogo	501 – 1,000	2007	Plumptre <i>et al.</i> (2008b)
	Mt. Hoyo	101 – 300	2011 – 15	Plumptre <i>et al.</i> (2015)
	REGOMUKI	101 – 300	2011 – 15	Plumptre <i>et al.</i> (2015)
	RGPU east	501 – 1,000	2011 – 15	Plumptre <i>et al.</i> (2015)
	RGPU north	101 – 300	2011 – 15	Plumptre <i>et al.</i> (2015)
	Rubi – T él é	501 – 1,000	2009	Plumptre <i>et al.</i> (2010)
	Tayna 大猩猩保护区	51 – 100	2011 – 15	Plumptre <i>et al.</i> (2015)
	Tayna-Kisimba-Ikobo	51 – 100	2011 – 15	Plumptre <i>et al.</i> (2015)
	Usala	51 – 100	2011 – 15	Plumptre <i>et al.</i> (2015)
	Virunga NP Rwenzori	501 – 1,000	2009	Plumptre <i>et al.</i> (2010)
Watalinga	501 – 1,000	2009	Plumptre <i>et al.</i> (2010)	
卢旺达	Gishwati森林保护区	≤ 50	2009 – 10	Chancellor <i>et al.</i> (2012)
	Nyungwe 国家公园	301 – 500	2014	WCS Rwanda, 未发表的数据, 2014
南苏丹	全国	存在		Plumptre <i>et al.</i> (2010)
坦桑尼亚	Greater Gombe 生态系统	101 – 300	2011 – 12	Piel <i>et al.</i> (2013)
	大Mahale 生态系统, 包括Masito-Ugalla	1,001 – 5,000	2011 – 12	Piel <i>et al.</i> (2013)
	Loasi森林保护区	51 – 100	2008	Davenport <i>et al.</i> (2010)
	Masito-Ugalla 生态系统	301 – 500	2014	Piel <i>et al.</i> (2015)

国家	地点名称	丰度等级	调查年	来源
乌干达	Budongo国家公园	501 - 1,000	2010 (model)	Plumptre <i>et al.</i> (2010)
	Bugoma森林保护区	501 - 1,000	2010 (model)	Plumptre <i>et al.</i> (2010)
	Bugoma-Budongo廊道	101 - 300	2013 - 14	McCarthy <i>et al.</i> (2015)
	Bulindi	≤ 50	2014	McLennan (2013)
	布温迪不可穿越国家公园	101 - 300	1999 - 2002	Plumptre, Cox and Mugume (2003)
	Echuya森林保护区	灭光	1999 - 2002	Plumptre <i>et al.</i> (2003)
	Ibambaro森林保护区	灭光	1999 - 2002	Plumptre <i>et al.</i> (2003)
	Kibale-Itwara	1,001 - 5,000	2010 (model)	Plumptre <i>et al.</i> (2010)
	Kagombe森林保护区	101 - 300	1999 - 2002	Plumptre <i>et al.</i> (2003)
	Kagorra region	≤ 50	1999 - 2002	Plumptre <i>et al.</i> (2003)
	Kasato森林保护区	≤ 50	1999 - 2002	Plumptre <i>et al.</i> (2003)
	Kibego森林保护区	≤ 50	1999 - 2002	Plumptre <i>et al.</i> (2003)
	Kitechura森林保护区	灭光	1999 - 2002	Plumptre <i>et al.</i> (2003)
	Kyambura野生动物保护区	51 - 100	1999 - 2002	Plumptre <i>et al.</i> (2003)
	Maramagambo-Kalinzu-Kashyoha-Kitomi景观	1,001 - 5,000	2010 (model)	Plumptre <i>et al.</i> (2010)
	Matiri森林保护区	灭光	1999 - 2002	Plumptre <i>et al.</i> (2003)
	Muhangi森林保护区	≤ 50	1999 - 2002	Plumptre <i>et al.</i> (2003)
	Otzi森林保护区	≤ 50	1999 - 2002	Plumptre <i>et al.</i> (2003)
	Rwenzori Mountains国家公园	301 - 500	1999 - 2002	Plumptre <i>et al.</i> (2003)
	South Bugoma	≤ 50	1999 - 2002	Plumptre <i>et al.</i> (2003)
Toro-Semliki野生动物保护区	51 - 100	2010 - 11	Samson and Hunt (2012)	
Wambabya森林保护区	101 - 300	1999 - 2002	Plumptre <i>et al.</i> (2003)	

表9

黑猩猩指名亚种(*Pan troglodytes troglodytes*)丰度估计

国家	地点名称	丰度等级	种数	调查年	来源
安哥拉	Maiombe (Cabinda)	存在	2	不详	IUCN (2014)
喀麦隆	Boumba-Bek国家公园	501 - 1,000	1	2015	Nzooch <i>et al.</i> (2016b)
	Boumba-Bek国家公园北部森林管理单元(10-020至10-023, 10-029和10-030)	301 - 500	1	2015	Nzooch <i>et al.</i> (2016b)
	Campo Ma'an (Dipikar Island)	301 - 500	1	2014 - 15	Nzooch <i>et al.</i> (2015)
	Campo Ma'an国家公园(北)	301 - 500	1	2014 - 15	Nzooch <i>et al.</i> (2015)

国家	地点名称	丰度等级	种数	调查年	来源
	Campo Ma'an - 运营技术单元(所有景观层的和)	1,001 - 5,000	1	2014 - 15	Nzooch <i>et al.</i> (2015)
	登登森林管理单元10-065	存在	1	2012	Maisels <i>et al.</i> (2013a)
	登登国家公园	存在	1	2012	Maisels <i>et al.</i> (2013a)
	Dja生物圈(或动物)保护区	1,001 - 5,000	1	2015	MINFOF and UICN (2015)
	森林管理单元00-004	存在	1	2007	Ekobo (2007)
	森林管理单元09-021	51 - 100	1	2014 - 15	Nzooch <i>et al.</i> (2015)
	森林管理单元09-024	101 - 300	1	2008	Nzooch <i>et al.</i> (2015)
	森林管理单元09-025	51 - 100	1	2014 - 15	Nzooch <i>et al.</i> (2015)
	森林管理单元10-013	存在	1	2003	Blake, Strindberg and Princ é e (2012)
	森林管理单元10-015	301 - 500	1	2015	Nzooch <i>et al.</i> (2016b)
	森林管理单元10-027和10-028	301 - 500	1	2015	Nzooch <i>et al.</i> (2016b)
	森林管理单元10-032和10-067	501 - 1,000	1	2015	Nzooch <i>et al.</i> (2016b)
	森林管理单元10-038	存在	1	2001	Etoga (2001)
	森林管理单元10-047a	301 - 500	1	2007	Bombome (2007)
	森林管理单元10-064	存在	1	2004	Blake <i>et al.</i> (2012)
	森林管理单元10-08/10-09/10-010/10-012	存在	1	2005	Blake <i>et al.</i> (2012)
	Lobéké国家公园	501 - 1,000	1	2015	Nzooch <i>et al.</i> (2016a)
	Mengam é 大猩猩养护所	存在	1	2006	Ekobo (2006)
	Nanga-Eboko	存在	1	2002	Fotso <i>et al.</i> (2002)
	Ngoyla Mintom complex	1,001 - 5,000	1	2015	Nzooch <i>et al.</i> (2016b)
Nki国家公园	301 - 500	1	2015	Nzooch <i>et al.</i> (2016b)	
Sanaga-Yong	存在	1	2002	Fotso <i>et al.</i> (2002)	
ZICGC 9	存在	1	2007	Mahop (2007)	
中非共和国	Dzanga国家公园	≤ 50	1	2015 - 16	N'Goran <i>et al.</i> (2016)
	Dzanga-Sangha景观(各层合计)	301 - 500	1	2015 - 16	N'Goran <i>et al.</i> (2016)
	Dzanga-Sangha特别保护区	101 - 300	1	2015 - 16	N'Goran <i>et al.</i> (2016)
	Ndoki国家公园	101 - 300	1	2015 - 16	N'Goran <i>et al.</i> (2016)
	SINFOCAM特许经营区	101 - 300	1	2015 - 16	N'Goran <i>et al.</i> (2016)
	STBC特许经营区	51 - 100	1	2015 - 16	N'Goran <i>et al.</i> (2016)
刚果(布)	Bailly Swamps	501 - 1,000	1	2011	Maisels <i>et al.</i> (2012)
	Batanga	101 - 300	1	2012	Iyenguet <i>et al.</i> (2012)
	Batéké森林	301 - 500	1	2012	Tolisano <i>et al.</i> (2013)

国家	地点名称	丰度等级	种数	调查年	来源
	Conkouati-Douli国家公园	5,001 - 10,000	2	2013	Vanleeuwe (2014)
	Dimonika生物圈保护区	存在	1	2009	Pintea <i>et al.</i> (2012)
	Djoua-Ivindo森林	5,000 - 1,0000	1	2014 - 15	Allam <i>et al.</i> (2016)
	Impfondo	501 - 1,000	1	2008	Iyenguet <i>et al.</i> (2008)
	Kabo	1,001 - 5,000	1	2010	Maisels <i>et al.</i> (2012)
	Lac Télé社区保护区	501 - 1,000	1	2011	Maisels <i>et al.</i> (2012)
	Lossi大猩猩养护所	存在	1	2004 - 05	Bermejo <i>et al.</i> (2006)
	Loundougou	1,001 - 5,000	1	2010 - 11	Maisels <i>et al.</i> (2012)
	Messok-Dja	552	1	2015 - 16	Allam <i>et al.</i> (2017)
	Mokabi	101 - 300	1	2006	Stokes <i>et al.</i> (2010)
	Ngombe	5,001 - 10,000	1	2014	Maisels <i>et al.</i> (2015)
	Nouabalé -Ndoki国家公园	1,001 - 5,000	1	2010 - 11	Maisels <i>et al.</i> (2012)
	Ntokou-Pikounda国家公园	1,001 - 5,000	1	2014	Maisels <i>et al.</i> (2015)
	Odzala-Koukoua国家公园	1,001 - 5,000	1	2012	Maisels <i>et al.</i> (2013b)
	Pokola	1,001 - 5,000	1	2010	Maisels <i>et al.</i> (2012)
	Tanga	≤ 50	1	2009	Malanda <i>et al.</i> (2010)
	刚果 (金)	Lac Tumba	存在	1	2007 - 10
Maiombe		存在	1	NA	IUCN (2015)
赤道几内亚	全国	5,001 - 10,000	1	2012	Murai <i>et al.</i> (2013)
加蓬	Bambidie	存在	1	2012	Haurez <i>et al.</i> (2014)
	Batéké Plateau国家公园	存在	2	2005 - 06	Bout (2006)
	Birougou国家公园	501 - 1,000	2	2006 - 07	Aba'a and Bezangoye (2007)
	Evaro	存在	2	2005	Latour (2005)
	Djouah-Zadie	1,001 - 5,000	2	2016	Le-Duc Yeno and N'Goran (2016)
	Ivindo特许经营区	501 - 1,000	2	2010	Motsaba and Maisels (2010)
	Ivindo国家公园	1,001 - 5,000	2	2009	Motsaba <i>et al.</i> (2009)
	Loango国家公园	301 - 500	2	2006	Maisels (2009)
	Lopé国家公园	1,001 - 5,000	2	2008 - 09	Bezangoye and Maisels (2010)
	Lopé-Waka廊道	1,001 - 5,000	2	2007	Maisels <i>et al.</i> (2008)
	Mayombe	1,001 - 5,000	2	2011	Aba'a <i>et al.</i> (2011)
	Mayumba国家公园	*存在	2	2006 - 10	Makaya (2010)
	Minkébé国家公园	**存在	2	2012 - 13	ANPN (2013)

国家	地点名称	丰度等级	种数	调查年	来源
	Monts de Cristal国家公园	存在	2	2005	Aba'a (2006)
	Moukalaba Doudou国家公园	存在	2	2010	Nakashima <i>et al.</i> (2013)
	Mwagna国家公园	**存在	2	2012	Maisels and Ella Akou (2013)
	Pongara国家公园	存在	1	2006	Latour (2006)
	Waka国家公园	存在	2	2005 - 06	Abitsi (2006)
	Wonga Wongué	存在	2	2011	Motsaba and Aba'a (2011)

注: 一个星星(*)代表这个类人猿种群稳定; 两个星星(**)代表这个类人猿种群数量在增长。“物种数量”(种数)一栏说明丰度估计是只针对大猩猩的(1), 还是大猩猩和黑猩猩两者都有(2)。

表10

黑猩猩西非亚种(*Pan troglodytes verus*)丰度估计

国家	地点名称	丰度等级	调查年	来源
贝宁	全国	可能绝灭	2013 - 14	Campbell and Houngbedji (2015)
布基纳法索	全国	可能绝灭	2012	Ginn <i>et al.</i> (2013)
冈比亚	全国	绝灭		IUCN (2015)
加纳	Atewa森林保护区	存在	2007	McCullough <i>et al.</i> (2007)
	Bia-Goaso	101 - 300	2009	Danquah <i>et al.</i> (2012)
	Boi-Tano森林保护区	存在	2006	Oates (2006)
	Cape Three Points森林保护区	灭光	2009	Gatti (2009)
	Draw River森林保护区	存在	2003	McCullough <i>et al.</i> (2007)
	Subri River森林保护区	存在	2011	Buzzard and Parker (2012)
几内亚	Bafing River area	1,001 - 5,000	2013 - 14	WCF (2014b)
	Diecke Classified Forest	51 - 100	2011	WCF (2012)
	Foutah Djallon	10,001 - 20,000	2011 - 12	WCF (2012)
	Gadha Woundou Classified Forest	≤ 50	2011	WCF (2012)
	Haut Niger国家公园 Kouya核心区	101 - 300	2011	WCF (2012)
	Haut Niger国家公园 Mafou核心区	101 - 300	2011	WCF (2012)
	Kankan动物保护区	存在	2010 - 11	WCF (2012)
	Koumbia	101 - 300	2010	WCF (2012)
	Mt. Nimba Strict NR	101 - 300	2009	WCF (2012)
	Oure Kaba Classified Forest	51 - 100	2009	WCF (2012)
	Pic de Fon Classified Forest	51 - 100	2002	Herbinger and Tounkara (2002)
	Sangaredi铝业项目	101 - 300	2014	WCF (2014a)
Ziama Strict自然保护区	≤ 50	2010 - 11	WCF (2012)	

国家	地点名称	丰度等级	调查年	来源
几内亚比绍	Boe区域(包括Boe国家公园)	1,001 – 5,000	2016	Chimbo Foundation, 个人沟通, 2017
	Cantanhez国家公园	存在	2007	Sousa <i>et al.</i> (2014)
	Lagoas de Cufada国家公园	101 – 300	2011	Carvalho, Marques and Vicente (2013)
科特迪瓦	Azagny国家公园	≤ 50	2007	Herbinger (2007)
	Banco国家公园	≤ 50	2015	Normand, 个人沟通, 2016
	Bossematie Classified Forest	存在	2007	Campbell <i>et al.</i> (2008)
	Cavally Classified Forest	51 – 100	2010	Normand, Singo and Boesch (2010)
	Comoé国家公园	存在	2009	WCF (2009)
	Dassiekro Classified Forest	灭光	2007	Campbell <i>et al.</i> (2008)
	Duekoue Classified Forest	灭光	2007	Campbell <i>et al.</i> (2008)
	Gobodienou Classified Forest	灭光	2007	Campbell <i>et al.</i> (2008)
	Goin-D é b é Classified Forest	≤ 50	2009	Normand <i>et al.</i> (2010)
	Haute Dodo	存在	2002	Sanderson <i>et al.</i> (2005)
	Mabi Classified Forest	存在	2007	Campbell <i>et al.</i> (2008)
	Marahou é NP	≤ 50	2006	N’Goran (2007)
	Monogaga Classified Forest	灭光	2007	Campbell <i>et al.</i> (2008)
	Mt. Kope	存在	2007	Campbell <i>et al.</i> (2008)
	Mt. Nimba Strict自然保护区	≤ 50	2010 – 11	Granier <i>et al.</i> (2014)
	Mt. Peko国家公园	灭光	2015	Normand, 个人沟通, 2016
	Mt. Sangbe国家公园	存在	2014	WCF, 未发表的数据, 2015
	Niouniourou Classified Forest	灭光	2007	Campbell <i>et al.</i> (2008)
	Nizoro Classified Forest	灭光	2007	Campbell <i>et al.</i> (2008)
	Okromodou Classified Forest	灭光	2007	Campbell <i>et al.</i> (2008)
	Port Gauthier Classified Forest	灭光	2007	Campbell <i>et al.</i> (2008)
	Tai国家公园	301-500	2016	Tiédoué <i>et al.</i> (2016)
	Tamin Classified Forest	灭光	2007	Campbell <i>et al.</i> (2008)
利比里亚	Grebo国家森林	101 – 300	2013	Kouakou Y. C., Vergnes v. and Normand E. (2013)
	Sapo国家公园	1,001 – 5,000	2016	Tweh (2017)
	全国	5,001 – 10,000	2011 – 12	Tweh <i>et al.</i> (2015)
马里	Bafing生物圈保护区	≤ 50	2014	PanAf, 未发表的数据, 2015
国家	地点名称	丰度等级	调查年	来源

塞内加尔	Fongoli	≤ 50	2006	Pruetz and Bertolani (2007)
	Nathia	存在	2010	Gašpersič and Pruetz (2011)
	全国	501 – 1,000	2015	Guesstimate, Wessling and Pruetz, 2016
	Niokolo Koba国家公园	≤ 50	2000	Pruetz <i>et al.</i> (2002)
塞拉利昂	Gola雨林国家公园	101 – 300	2015 – 16	B. Barca, 个人沟通, 2017
	Kambui森林保护区	存在	2010	Brncic, Amarasekaran and McKenna (2010)
	Kangari森林保护区	存在	2010	Brncic <i>et al.</i> (2010)
	Kilimi国家公园	51 – 100	2010	Brncic <i>et al.</i> (2010)
	Lake Sonfon拟议的国家公园	存在	2010	Brncic <i>et al.</i> (2010)
	Loma森林保护区	1,001 – 5,000	2010	Brncic <i>et al.</i> (2010)
	Moyamba	存在	2010	Brncic <i>et al.</i> (2010)
	全国	5,001 – 10,000	2009	Brncic <i>et al.</i> (2010)
	Nimini森林保护区	存在	2010	Brncic <i>et al.</i> (2010)
	Outamba国家公园	501 – 1,000	2010	Brncic <i>et al.</i> (2010)
	Tingi森林保护区	51 – 100	2010	Brncic <i>et al.</i> (2010)
	Tonkoli森林保护区	存在	2010	Brncic <i>et al.</i> (2010)
	Western Area Peninsula森林保护区	51 – 100	2010	Brncic <i>et al.</i> (2010)
多哥	全国	可能绝灭	2013 – 14	Campbell and Houngbedji (2015)

表11

苏门答腊猩猩(*Pongo abelii*)丰度估计

国家	地点名称	在《类人猿现状》之前两卷中的地点名称	丰度等级	估计年份	来源
印度尼西亚	勒赛尔东部	勒赛尔东部生态系统, 中亚齐生态系统东部	5,001 – 10,000	2015	Wich <i>et al.</i> (2016)
	Sikulaping	Sidiangkat	101 – 300	2015	Wich <i>et al.</i> (2016)
	Siranggas, Batu Ardan	Sidiangkat	51 – 100	2015	Wich <i>et al.</i> (2016)
	Tripa Swamp	Tripa Swamp	101 – 300	2015	Wich <i>et al.</i> (2016)
	Trumon-Singkil	Trumon Singkil	1,001 – 5,000	2015	Wich <i>et al.</i> (2016)
	勒赛尔西部	勒赛尔生态系统西部, 中亚齐生态系统西部	5,001 – 10,000	2015	Wich <i>et al.</i> (2016)

注: 当前和之前的地点名称不一定指同样的区域。在一些情况下, 新的地点名称可能包括之前单独列出的多个地点。由此导致不能在地点层面直接比较一段时间之前和之后的猩猩数量。

表12

达班奴里猩猩(*Pongo tapanuliensis*)丰度估计

国家	地点名称	在《类人猿现状》之前两卷中的地点名称	丰度等级	估计年份	来源
印度尼西亚	巴唐打鲁西部	巴唐打鲁西部	501 – 1,000	2015	Wich <i>et al.</i> (2016)
	巴唐打鲁东部	Sarulla东部	101 – 300	2015	Wich <i>et al.</i> (2016)

注: 达班奴里猩猩首次描述是在2017年11月 (Nater *et al.*, 2017)。这里提供的描述和种群估计是依据在该区域有达班奴里猩猩分布的较早前调查。较早前调查时, 这些种群仍被确定为苏门答腊猩猩; 因此, 引用的来源没有提到达班奴里猩猩。

表13

婆罗洲猩猩沙巴亚种(*Pongo pygmaeus morio*)丰度估计

国家	地点名称	在《类人猿现状》之前两卷中的地点名称	丰度等级	估计年份	来源
印度尼西亚	Belayan景观	N/A	51 – 100	2016	Utami-Atmoko <i>et al.</i> (2016)
	Bontang景观	Kutai国家公园	51 – 100	2016	Utami-Atmoko <i>et al.</i> (2016)
	Kutai景观	Kutai NP and Sangatta-Bengalon and Muara Wahau	1,001 – 5,000	2016	Utami-Atmoko <i>et al.</i> (2016)
	Lesan景观	Lesan分水岭	51 – 100	2016	Utami-Atmoko <i>et al.</i> (2016)
	Sangkulirang景观	Sangkulirang-Mangkalihat karst area	301 – 500	2016	Utami-Atmoko <i>et al.</i> (2016)
	Senyur景观	N/A	101 – 300	2016	Utami-Atmoko <i>et al.</i> (2016)
	Wehea景观	Kelai分水岭	501 – 1,000	2016	Utami-Atmoko <i>et al.</i> (2016)
马来西亚	Bongaya景观	Bongaya森林保护区	101 – 300	2016	Utami-Atmoko <i>et al.</i> (2016)
	Central Forest分布区景观	Keningau, Kinabalu, Kuamut, Pinangah, Segama	5,001 – 10,000	2016	Utami-Atmoko <i>et al.</i> (2016)
	Crocker分布区景观	Crocker Range NP, Kinabalu	101 – 300	2016	Utami-Atmoko <i>et al.</i> (2016)
	Lingkabau景观	Lingkabau森林保护区	101 – 300	2016	Utami-Atmoko <i>et al.</i> (2016)
	Lower Kinabatangan分布区景观	Kinabatangan, Kulamba Wildlife Reserve	1,001 – 5,000	2016	Utami-Atmoko <i>et al.</i> (2016)
	North Kinabatangan分布区景观和Ulu Tungud	Upper Kinabatangan	1,001 – 5,000	2016	Utami-Atmoko <i>et al.</i> (2016)
	Sepilok	Sepilok	101 – 300	2016	Utami-Atmoko <i>et al.</i> (2016)
	Tabin分布区景观	Tabin	1,001 – 5,000	2016	Utami-Atmoko <i>et al.</i> (2016)
	Trus madi景观	Trus Madi森林	101 – 300	2016	Utami-Atmoko <i>et al.</i> (2016)
	Ulu Kalumpang分布区景观	Ulu Kalumpang森林保护区	301 – 500	2016	Utami-Atmoko <i>et al.</i> (2016)
Ulu Tungud景观	N/A	≤ 50	2016	Utami-Atmoko <i>et al.</i> (2016)	

注: 当前和之前的地点名称不一定指同样的区域。在一些情况下, 新的地点名称可能包括之前单独列出的多个地点。由此导致不能在地点层面直接比较一段时间之前和之后的猩猩数量。

表14

婆罗洲猩猩指名亚种(*Pongo pygmaeus pygmaeus*)丰度估计

国家	地点名称	在《类人猿现状》之前两卷中的地点名称	丰度等级	估计年份	来源
印度尼西亚	Betung Kerihun国家公园和保护森林	Betung Kerihun, part of Upper Kapuas swamps	1,001 – 5,000	2016	Utami-Atmoko <i>et al.</i> (2016)
	Danau Sentarum及廊道	Danau Sentarum, part of Upper Kapuas swamps	501 – 1,000	2016	Utami-Atmoko <i>et al.</i> (2016)
	Pygmaeus fragmented North	N/A	≤ 50	2016	Utami-Atmoko <i>et al.</i> (2016)
	Pygmaeus fragmented South	N/A	≤ 50	2016	Utami-Atmoko <i>et al.</i> (2016)
印度尼西亚/ 马来西亚	Bungoh NP – Gunung Nyiut NR, Penrisen protection forest	N/A	51 – 100	2016	Utami-Atmoko <i>et al.</i> (2016)
	Klingkang Range NP, Sintang Utara	N/A	51 – 100	2016	Utami-Atmoko <i>et al.</i> (2016)
马来西亚 (沙捞越)	Batang Ai – Lanjak Entimau landscape	Batang Ai, Lanjak Entimau	1,001 – 5,000	2016	Utami-Atmoko <i>et al.</i> (2016)
	Ulu Sebuyau-Sedilu景观	N/A	≤ 50	2016	Utami-Atmoko <i>et al.</i> (2016)

注：当前和之前的地点名称不一定指同样的区域。在一些情况下，新的地点名称可能包括之前单独列出的多个地点。由此导致不能在地点层面直接比较一段时间之前和之后的猩猩数量。

表15

婆罗洲猩猩加里曼丹亚种(*Pongo pygmaeus wurmbii*)丰度估计

国家	地点名称	在《类人猿现状》之前两卷中的地点名称	丰度等级	估计年份	来源
印度尼西亚	Arabela Schwaner	Bukit Baka, Bukit Rongga and Perai, Arut Belantikan, Seruyan, Bukit Raya, Sei Kahayan-Sei Samba, Sei Samba-Sei Katingan, Cagar Alam B. Spt Hawung	10,001 – 20,000	2016	Utami-Atmoko <i>et al.</i> (2016)
	Barito Timur	N/A	101 – 300	2016	Utami-Atmoko <i>et al.</i> (2016)
	Gunung Palung – Sungai Putri	Gunung Palung	1,001 – 5,000	2016	Utami-Atmoko <i>et al.</i> (2016)
	Kahayan-Kapuas	Kahayan Kapuas	1,001 – 5,000	2016	Utami-Atmoko <i>et al.</i> (2016)
	Kapuas-Barito	Mawas, Cagar Alam Pararawen	1,001 – 5,000	2016	Utami-Atmoko <i>et al.</i> (2016)
	Katingan	Katingan	1,001 – 5,000	2016	Utami-Atmoko <i>et al.</i> (2016)
	Kendawangan-Jelai	N/A	≤ 50	2016	Utami-Atmoko <i>et al.</i> (2016)
	Kotawaringan-Lama	Tanjung Keluang	501 – 1,000	2016	Utami-Atmoko <i>et al.</i> (2016)

国家	地点名称	在《类人猿现状》之前两卷中的地点名称	丰度等级	估计年份	来源
	Kubu Raya	N/A	1,001 – 5,000	2016	Utami-Atmoko <i>et al.</i> (2016)
	Lamandau-Sukumara	Lamandau	501 – 1,000	2016	Utami-Atmoko <i>et al.</i> (2016)
	Pematang Gadung	N/A	501 – 1,000	2016	Utami-Atmoko <i>et al.</i> (2016)
	Rungan River landscape	Rungan Kahayan	1,001 – 5,000	2016	Utami-Atmoko <i>et al.</i> (2016)
	Sebangau	Sebangau NP, Sebangau Kahayan	5,001 – 10,000	2016	Utami-Atmoko <i>et al.</i> (2016)
	Seruyan-Sampit	N/A	101 – 300	2016	Utami-Atmoko <i>et al.</i> (2016)
	Sungai Tengah	N/A	101 – 300	2016	Utami-Atmoko <i>et al.</i> (2016)
	Tanjung Puting	Tanjung Puting NP	1,001 – 5,000	2016	Utami-Atmoko <i>et al.</i> (2016)

注: 当前和之前的地点名称不一定指同样的区域。在一些情况下, 新的地点名称可能包括之前单独列出的多个地点。由此导致不能在地点层面直接比较一段时间之前和之后的猩猩数量。

表16

高黎贡白眉长臂猿(*Hoolock tianxing*)丰度估计

国家	地点名称	丰度等级	调查年	来源
中国	云南高黎贡山	101 – 300	2011	Fan <i>et al.</i> (2011)
缅甸	掸邦	20,001 – 50,000	2013	Geissmann <i>et al.</i> (2013)
	克耶邦和克伦邦	10,001 – 20,000	2013	Geissmann <i>et al.</i> (2013)

表17

西白眉长臂猿(*Hoolock hoolock*)丰度估计

国家	地点名称	丰度等级	调查年	来源
孟加拉国	Kalachara Forest Beat	≤ 50	2009	Akers, Islam and Nijman (2013)
	Lawachara and Chunati	存在	1989 – 90	Ahsan (2001)
		存在	1990 – 91	Islam and Feeroz (1992)
印度	Assam	1,001 – 5,000	1994 – 2004	Das <i>et al.</i> (2005)
	Barail and Langting-Mupa Reserve Forests (North Cachar Hills), Hollongapar Reserve Forest (Jorhat district), Innerline Reserve Forest (Cachar)	存在	1986 – 88	Choudhury (2000)
	Dampa老虎保护区	≤ 50	2011	Pachau <i>et al.</i> (2013)
	Hollongapur森林保护区	存在	1971 – 73	Tilson (1979)
	Lower Dibang Valley, Arunachal Pradesh	1,001 – 5,000	2007 – 10	Kumar <i>et al.</i> (2013)
	Mehao Wildlife Sanctuary, Arunachal Pradesh	301 – 500	2008 – 09	Chetry and Chetry (2010)
	Sadiya subdivision, Assam	51 – 100	2010	Chetry and Chetry (2010)

缅甸	Chaung Tha (若开邦)	10,001 – 20,000	2008	Geissmann et al. (2013)
	Do Kwe Chaung (若开邦)	10,001 – 20,000	2008	Geissmann et al. (2013)
	Gaba Gaso (实皆省)	>100,000	2009	Geissmann et al. (2013)
	Goatsiyo (马圭省)	存在	2009	Geissmann et al. (2013)
	Kyaukpyar Kyaw (马圭省)	存在	2009	Geissmann et al. (2013)
	Naga (克钦邦)	50,001 – 100,000	2006	Geissmann et al. (2013)
	Natyekan (马圭省)	存在	2009	Geissmann et al. (2013)
	Paik Chaung (马圭省)	存在	2009	Geissmann et al. (2013)
	Yaw Par Mi (实皆省)	>100,000	2009	Geissmann et al. (2013)
	Ye Paw Gyi (若开邦)	10,001 – 20,000	2008	Geissmann et al. (2013)

注: 缅甸的丰度估计对应的是括号内邦或省的估计, 不是地点的估计。

表18

东白眉长臂猿(*Hoolock leuconedys*)丰度估计

国家	地点名称	丰度等级	调查年	来源
缅甸	Gata Bum (克钦邦)	>100,000	2009	Geissmann et al. (2013)
	Gato (克钦邦)	>100,000	2009	Geissmann et al. (2013)
	Hopom (克钦邦)	>100,000	2010	Geissmann et al. (2013)
	Hpongun Razi (克钦邦)	>100,000	2009	Geissmann et al. (2013)
	Htee Khaw Lay Ko (克钦邦)	10,001 – 20,000	2010	Geissmann et al. (2013)
	Htee Ler Kee (克钦邦)	10,001 – 20,000	2010	Geissmann et al. (2013)
	Kyi Nort (克钦邦)	>100,000	2009	Geissmann et al. (2013)
	Lwan Khong (克钦邦)	>100,000	2009	Geissmann et al. (2013)
	Mahamyaing (实皆省)	>100,000	2004	Geissmann et al. (2013)
	Mine Naung (克钦邦)	>100,000	2010	Geissmann et al. (2013)
	Nam Pagon (实皆省)	>100,000	2009	Geissmann et al. (2013)
	Nam Pilin (实皆省)	>100,000	2009	Geissmann et al. (2013)
	Nant Nint (克钦邦)	>100,000	2010	Geissmann et al. (2013)
	Ohnyan (克钦邦)	>100,000	2010	Geissmann et al. (2013)
	Plo Doh Kee (克钦邦)	10,001 – 20,000	2010	Geissmann et al. (2013)
	Salin (克钦邦)	>100,000	2010	Geissmann et al. (2013)
Su Bum (克钦邦)	>100,000	2009	Geissmann et al. (2013)	

注: 丰度估计对应的是括号内邦或省的估计, 不是地点的估计。未能找到这一物种在中国和印度的种群信息。

表19

灰长臂猿沙捞越种(*Hylobates abbotti*)丰度估计

对这一物种没有准确的种群密度估计;所有种群数字都是依据对相关物种的最佳估计推算出来的。在保护区外很可能有大的种群,但是这些需要进一步评价。种植园(尤其是油棕种植园)对长臂猿种群的影响尚不清楚,需要更多数据。

表20

敏长臂猿(*Hylobates agilis*)丰度估计

国家	地点名称	丰度等级	调查年	来源
印度尼西亚	Air Tarusan保护区	存在	2015	Chanee, 未发表的数据, 2015
	Kerinci Seblat国家公园	存在	1994	A. Yannuar, 个人沟通, 2012

注: 未能找到这一物种在马来西亚的种群信息。

表21

婆罗洲白须长臂猿(*Hylobates albibarbis*)丰度估计

国家	地点名称	丰度等级	调查年	来源
印度尼西亚	Bawan	20,001 – 50,000	2010	Harrison <i>et al.</i> (2012)
	Block C Ex-Mega Rice Project	5,001 – 10,000	2011	Cheyne (2011)
	Bukit Baka Bukit Raya国家公园	10,001 – 20,000	2003	S. Cheyne, 未发表的数据, 2003
	Gunung Palung国家公园	5,001 – 10,000	2014	Marshall, Beaudrot and Wittmer (2014)
	Mungku Baru	1,001 – 5,000	2010	Harrison <i>et al.</i> (2010)
	Pararawen Reserve	501 – 1,000	2014	Chanee, 未发表的数据, 2015
	Sabangau catchment	**10,001 – 20,000	2007	Cheyne <i>et al.</i> (2007)

注: 两个星星(**)代表类人猿种群数量在增长。

表22

灰长臂猿婆罗洲亚种(*Hylobates funereus*)丰度估计

国家	地点名称	丰度等级	调查年	来源
印度尼西亚	Betung Kerihun国家公园	存在	无	传闻^
	Danau Sentarum-Betung Kerihun	存在	无	传闻^
	Kayan Menterang国家公园	10,001 – 20,000	2003	Nijman and Menken (2005)
	Kutai国家公园	存在	无	传闻^
	Sankulirang karst area	存在	无	传闻^
	Wehea Protection Forest	1,001 – 5,000	2014	Cheyne <i>et al.</i> 2016

国家	地点名称	丰度等级	调查年	来源
马来西亚	Crocker Range国家公园	存在	无	传闻 [^]
	Danum Valley	存在	无	传闻 [^]
	Imbak Canyon Conservation Area	存在	无	传闻 [^]
	Kinabatangan	存在	无	传闻 [^]
	Malinau Basin	存在	无	传闻 [^]

注: 未能找到这一物种在文莱的种群信息。[^]这一信息来自多位研究人员在这些区域开展项目时听到长臂猿的长呼。

表23

克氏长臂猿(*Hylobates klossii*)丰度估计

国家	地点名称	丰度等级	调查年	来源
印度尼西亚	Saraboa and Sikakap	存在	1970	Tenaza and Hamilton III (1971)
	Siberut Island国家公园	10,001 - 20,000	2012	Quinten <i>et al.</i> (2014) Höing <i>et al.</i> 2013

表24

白掌长臂猿(*Hylobates lar*)丰度估计

国家	地点名称	丰度等级	调查年	来源
中国	云南省西南部南滚河自然保护区	灭光	2007	Grueter <i>et al.</i> (2009)
印度尼西亚	Ketambe Research Station	存在	1985 - 87	Palombit (1995)
老挝	Nam Pouy国家保护区	≤ 50	2011	Boonratana <i>et al.</i> (2011)
泰国	Khao Yai国家公园	存在	1992 - 96	Reichard and Sommer (1997)
	Mo Singto, Khao Yai国家公园	存在	1994 - 95	Bartlett (2009)

注: 未能找到这一物种在马来西亚或缅甸的种群信息。

表25

银白长臂猿(*Hylobates moloch*)丰度估计

国家	地点名称	丰度等级	调查年	来源
印度尼西亚	Bojongpicung	≤ 50	1994 - 2001	Nijman (2004)
	Cisolok	≤ 50	1994 - 2001	Nijman (2004)
	Gede Pangrango	101 - 300	2007	Iskandar (2007)
	Gunung Halimun Reserve	存在	2011	Setiawan <i>et al.</i> (2012)

国家	地点名称	丰度等级	调查年	来源
	Lengkong	≤ 50	1994 – 2001	Nijman (2004)
	Leuweung Sancang	≤ 50	2003	Nijman (2004)
	Mt. Burangrang-Tangkuban Perahu	51 – 100	1994 – 2001	Nijman (2004)
	Mt. Ciremai	存在	1994 – 2001	Nijman (2004)
	Mt. Dieng and Mt. Pegunungan Dieng	501 – 1,000	2003	Nijman (2004)
	Mt. Halimun Salak国家公园	1,001 – 5,000	2007	Iskandar (2007)
	Mt. Halu	≤ 50	1994 – 2001	Nijman (2004)
	Mt Jayanti-Tangkuban Perahu	≤ 50	1994 – 2001	Nijman (2004)
	Mt. Lawet/Cupu-Simembut/Jaran	51 – 100	1994	Nijman (2004)
	Mt. Malang	≤ 50	1994 – 2001	Nijman (2004)
	Mt. Manglayang	≤ 50	1994 – 2001	Nijman (2004)
	Mt. Masegit-Kareumbi	≤ 50	1994 – 2001	Nijman (2004)
	Mt. Papandayan	101 – 300	1994 – 2001	Nijman (2004)
	Mt. Pongkor	≤ 50	1994 – 2001	Nijman (2004)
	Mt. Porang	≤ 50	1994 – 2001	Nijman (2004)
	Mt. Sawal	存在	1994 – 2001	Nijman (2004)
	Mt. Segara	51 – 100	1994	Nijman (2004)
	Mt. Simpang	501 – 1,000	1994 – 2001	Nijman (2004)
	Mt. Slamet	51 – 100	2009 – 10	Setiawan <i>et al.</i> (2012)
	Mt. Tilu	51 – 100	1994 – 2001	Nijman (2004)
	Mt. Wayang	101 – 300	1994 – 2001	Nijman (2004)
	Pasir Susuru	≤ 50	1994 – 2001	Nijman (2004)
	Sanggabuana	51 – 100	1994 – 2001	Nijman (2004)
	Takokak	≤ 50	2003	Nijman (2004)
	Telaga Warna	存在	2000	Nijman (2004)
	Telaga Warna-Megamendung	51 – 100	2001	Nijman (2004)
	Ujung Kulon (Honje-Tereleng)	501 – 1,000	2001	Nijman (2004)
	Ujung Kulon-Gunung Honje自然保护区	存在	2011	Setiawan <i>et al.</i> (2012)

表26

穆氏长臂猿(*Hylobates muelleri*)丰度估计

国家	地点名称	丰度等级	调查年	来源
印度尼西亚	Gunung Lumut Reserve (Hutan Lindung)	5,001 – 10,000	2011	Chanee, 未发表的数据, 2015
	Sungai Wain Protection Forest	**1,001 – 5,000	2012	Gilhooly, Rayadin and Cheyne (2015)
	Uut Murung (混杂群, 未受保护)	50,001 – 100,000	2011	Cheyne <i>et al.</i> (2012)

注: 两个星星(**)代表类人猿种群数量在增长。

表27

戴帽长臂猿(*Hylobates pileatus*)丰度估计

国家	地点名称	丰度等级	调查年	来源
柬埔寨	Bokor国家公园	1,001 – 5,000	2005	Traeholt <i>et al.</i> (2005)
	Botum Sakor国家公园	5,001 – 10,000	2005	Traeholt <i>et al.</i> (2005)
	Central Cardamoms受保护森林	10,001 – 20,000	2005	Traeholt <i>et al.</i> (2005)
	Kirirom国家公园	1,001 – 5,000	2005	Traeholt <i>et al.</i> (2005)
	Kulen Promtep野生动物养护所	1,001 – 5,000	2005	Traeholt <i>et al.</i> (2005)
	Phnom Aural野生动物养护所	1,001 – 5,000	2005	Traeholt <i>et al.</i> (2005)
	Phnom Samkos野生动物养护所	5,001 – 10,000	2005	Traeholt <i>et al.</i> (2005)
	Prey Long	1,001 – 5,000	2005	Traeholt <i>et al.</i> (2005)
	Samling特许经营区	1,001 – 5,000	2005	Traeholt <i>et al.</i> (2005)
	Southern Cardamom Mountains	10,001 – 20,000	2005	Traeholt <i>et al.</i> (2005)
泰国	Khao Ang Rue Nai野生动物养护所	1,001 – 5,000	2011	Phoonjampa <i>et al.</i> (2011)
	Khao Soi Dao野生动物养护所	1,001 – 5,000	2004 – 05	Phoonjampa and Brockelman (2008)
	Khao Yai国家公园	1,001 – 5,000	2004 – 05	Phoonjampa and Brockelman (2008)
	Pang Sida和Tab Lan国家公园	1,001 – 5,000	2004 – 05	Phoonjampa and Brockelman (2008)

注: 未能找到这一物种在老挝的种群信息。

表28

北黄颊冠长臂猿(*Nomascus annamensis*)丰度估计

国家	地点名称	丰度等级	调查年	来源
柬埔寨	Vensai Siempang国家公园	存在	2017	Conservation International Cambodia, 未发表的数据, 2017
	Virachey国家公园	存在	2017	GDANCP, MoE, Cambodia, 未发表的数据, 2017
老挝	Bolaven Northeast	存在	1995	Duckworth (2008)
	Bolaven Southwest	存在	1995	Duckworth (2008)
	Dakchung plateau	存在	1994	Duckworth (2008)
	Dong Ampham国家保护区	存在	2007	Duckworth (2008)
	Dong Hua Sao国家保护区	存在	2008	Duckworth (2008)
	Dong Kapho经济林	存在	2005	Duckworth (2008)
	Dong Nathat保护区	存在	Pre-1990	Duckworth (2008)
	Dong Phou Vieng国家保护区	存在	2008	Duckworth (2008)
	Dong Sithouan经济林	存在	2005	Duckworth (2008)
	Laongam经济林	存在	2002	Duckworth (2008)
	Muang Kaleum	存在	2008	Duckworth (2008)
	Muang Lamam	存在	2008	Duckworth (2008)
	Muang Nong	存在	2007	Duckworth (2008)
	Muang Paksong	存在	2007	Duckworth (2008)
	Muang Pathoumphon	存在	2005	Duckworth (2008)
	Muang Samakhixai	存在	2007	Duckworth (2008)
	Muang Sanamxai	存在	2007	Duckworth (2008)
	Muang Somoy	存在	2008	Duckworth (2008)
	Muang Taoy	存在	2007	Duckworth (2008)
	Nam Ghong省保护区	存在	2007	Duckworth (2008)
	Phou Ahyon	存在	1996	Duckworth (2008)
	Phou Khathong拟议国家保护区	存在	2008	Duckworth (2008)
Phou Talava经济林	存在	2005	Duckworth (2008)	
Phou Theung拟议国家保护区	存在	2006	Duckworth (2008)	

国家	地点名称	丰度等级	调查年	来源
	Phou Xiang Thong国家保护区	存在	2008	Duckworth (2008)
	Silivangveun经济林	存在	2002	Duckworth (2008)
	Thateng	存在	1989	Duckworth (2008)
	Xe Bang-Nouan国家保护区	存在	2008	Duckworth (2008)
	Xe Khampho拟议国家保护区	存在	1995	Duckworth (2008)
	Xe Kong松树森林	存在	1992	Duckworth (2008)
	Xe Pian国家保护区	存在	2008	Duckworth (2008)
	Xe Sap国家保护区	存在	2008	Duckworth (2008)
	Xonbulu Eld's鹿养护所	存在	2008	Duckworth (2008)
越南	A Luoi分水岭	≤ 50	2008	Rawson <i>et al.</i> (2011)
	Ba Na-Nui Chua自然保护区	存在	2006	Rawson <i>et al.</i> (2011)
	Ba Nam Commune, 巴丝县	≤ 50	2011	Rawson <i>et al.</i> (2011)
	Bach Ma国家公园	灭光	2010	Rawson <i>et al.</i> (2011)
	Chu Mom Ray国家公园	≤ 50	2007	Rawson <i>et al.</i> (2011)
	Dak Rong自然保护区	51 - 100	2010	Rawson <i>et al.</i> (2011)
	Dakroong and Tam Lap省森林企业	≤ 50	2008	Rawson <i>et al.</i> (2011)
	Kon Cha Rang自然保护区	≤ 50	2010	Rawson <i>et al.</i> (2011)
	Kon Ka Kinh国家公园	≤ 50	2010	Rawson <i>et al.</i> (2011)
	Kon Plong省森林企业	≤ 50	2009	Rawson <i>et al.</i> (2011)
	Nam Dong分水岭森林	≤ 50	2007	Rawson <i>et al.</i> (2011)
	Ngoc Linh自然保护区	存在	2006	Rawson <i>et al.</i> (2011)
	Ngoc Linh拟议自然保护区	灭光	2005	Rawson <i>et al.</i> (2011)
	Phong Dien自然保护区	≤ 50	2010	Rawson <i>et al.</i> (2011)
	Quang Nam Saola自然保护区	存在	2005	Rawson <i>et al.</i> (2011)
	Que Son拟议的物种和栖息地保护区	存在	2009	Rawson <i>et al.</i> (2011)
	Song Thanh自然保护区	≤ 50	2004	Rawson <i>et al.</i> (2011)
Thua Thien Hue Saola自然保护区	灭光	2010	Rawson <i>et al.</i> (2011)	

注: 研究人员发现之前把老挝这里的长臂猿确定为南黄颊冠长臂猿有误, 这里的长臂猿实际上是北黄颊冠长臂猿。意识到这一错误后, 还没有开展调查。

表29

西黑冠长臂猿(*Nomascus concolor*)丰度估计

国家	地点名称	丰度等级	调查年	来源
中国	哀牢山自然保护区	101 - 300	2009 - 10	Li <i>et al.</i> (2011)
	哀牢山自然保护区和哀牢山新平县自然保护区	301 - 500	2009 - 10	Li <i>et al.</i> (2011)
	景谷	存在	2008	Fan and Huo (2009)
	Lanbanghe省级自然保护区	存在	2011	Li <i>et al.</i> (2011)
	澜沧江省级自然保护区	存在	2011	Li <i>et al.</i> (2011)
	南滚河自然保护区北部	存在	2011	Li <i>et al.</i> (2011)
	无量山自然保护区	1,001 - 5,000	2012	Fan <i>et al.</i> (2013)
	永德大雪山自然保护区	≤ 50	2011	Li <i>et al.</i> (2011)
	镇远	≤ 50	2011	Luo (2011)
老挝	Houay Nam Loi	存在	1991	Duckworth (2008)
	Louang-Namtha	存在	2006	Duckworth (2008)
	Nam Ha国家保护区	存在	2007	Duckworth (2008)
	Nam Kan国家保护区	存在	2008	Duckworth (2008)
	Nam Kong省级保护区	101 - 300	1997	Duckworth (2008)
越南	Hoang Lien自然保护区及周边	存在	2009	Rawson <i>et al.</i> (2011)
	Hoang Lien-Van Ban自然保护区	≤ 50	2009	Rawson <i>et al.</i> (2011)
	Mu Cang Chai SHCA	≤ 50	2010	Rawson <i>et al.</i> (2011)
	Muong La分水岭保护森林	≤ 50	2010	Rawson <i>et al.</i> (2011)
	Pan village, Muong Do commune, Phu Yen district	灭光	2005	Rawson <i>et al.</i> (2011)
	Tram Tau	灭光	2005	Rawson <i>et al.</i> (2011)
	Xuan Son自然保护区	灭光	2005	Rawson <i>et al.</i> (2011)

表30

南黄颊冠长臂猿(*Nomascus gabriellae*)丰度估计

国家	地点名称	丰度等级	调查年	来源
柬埔寨	Phnom Prich野生动物养护所	501-1000	2008	Gray, Phan and Long (2010)
	Seima生物多样性保护区	存在	2015	WCS Cambodia, unpublished data, 2015
越南	Bi Dup-Nui Ba自然保护区	≤ 50	2010	Rawson <i>et al.</i> (2011)
	Bu Gia Map国家公园	101 - 300	2010	Rawson <i>et al.</i> (2011)
	Cat Tien国家公园	301 - 500	2010	Rawson <i>et al.</i> (2011)
	Chu Yang Sin国家公园	≤ 50	2009	Rawson <i>et al.</i> (2011)
	Cu Jut县	存在	2007	Rawson <i>et al.</i> (2011)
	Dong Nai NR	≤ 50	2010	Rawson <i>et al.</i> (2011)
	Ea So NR	存在	2006	Rawson <i>et al.</i> (2011)
	Ea Sup/Ea H'leo区	存在	1998	Rawson <i>et al.</i> (2011)
	Ea Trang Commune, M'drak	存在	1998	Rawson <i>et al.</i> (2011)
	Hon Ba自然保护区	101 - 300	2015	Hoang, Tran and Covert (2015)
	Khanh Hoa SFE and Tram Huong林业公司	101 - 300	2015	Hoang <i>et al.</i> (2015)
	Krong No县	存在	1998	Rawson <i>et al.</i> (2011)
	Loc Bac省林业企业	≤ 50	2004	Rawson <i>et al.</i> (2011)
	Nam Nung自然保护区	≤ 50	2010	Rawson <i>et al.</i> (2011)
	Ninh Son省林业企业	101 - 300	2015	Hoang <i>et al.</i> (2015)
	Nui Ong自然保护区	灭光	2010	Rawson <i>et al.</i> (2011)
	Phuoc Binh国家公园	101 - 300	2015	Hoang <i>et al.</i> (2015)
	Quang Truc Commune, Dak Rlap县	101 - 300	2013	Hoang <i>et al.</i> (2014)
	Ta Dung自然保护区	51 - 100	2010	Rawson <i>et al.</i> (2011)
	Yok Don国家公园	存在	2007	Rawson <i>et al.</i> (2011)
Yun Pa拟议自然保护区	存在	2000	Rawson <i>et al.</i> (2011)	

注: 研究人员发现之前把老挝这里的长臂猿确定为南黄颊冠长臂猿有误, 这里的长臂猿实际上是北黄颊冠长臂猿。意识到这一错误后, 还没有开展调查。

表31

海南长臂猿(*Nomascus hainanus*)丰度估计

国家	地点名称	丰度等级	调查年	来源
中国	霸王岭国家自然保护区	≤ 50	2012	Bryant (2014)

表32

北白颊冠长臂猿(*Nomascus leucogenys*)丰度估计

国家	地点名称	丰度等级	调查年	来源
老挝	Muang Bolikhan	存在	2006	Duckworth (2008)
	Muang Feuang	存在	1999	Duckworth (2008)
	Muang Hinheup	存在	1999	Duckworth (2008)
	Muang Houamouang	存在	2006	Duckworth (2008)
	Muang Kasi	存在	1999	Duckworth (2008)
	Muang Met	存在	1999	Duckworth (2008)
	Muang Sangthong	存在	1996	Duckworth (2008)
	Muang Vangviang	存在	1999	Duckworth (2008)
	Muang Viangthong	存在	2008	Duckworth (2008)
	Muang Xanakham	存在	2003	Duckworth (2008)
	Muang Xiangkho	存在	2008	Duckworth (2008)
	Nam Et-Phou Louey国家保护区	存在	2008	Duckworth (2008)
	Nam Gniap catchment	存在	2008	Duckworth (2008)
	Nam Kading国家保护区	存在	2010	Thinh <i>et al.</i> (2010)
	Nam Xam国家保护区	存在	2000	Duckworth (2008)
	Northern Xiangkhouang	存在	2008	Duckworth (2008)
	Phou Dendin国家保护区	存在	2005	Duckworth (2008)
	Phou Khaokhoay国家保护区	存在	2007	Duckworth (2008)
	Phou Phanang国家保护区	存在	1983	Duckworth (2008)
Southern Xiangkhouang	存在	1996	Duckworth (2008)	
越南	Ben En自然保护区	灭光	1998	Rawson <i>et al.</i> (2011)
	Hang Kia-Pa Co自然保护区	灭光	2009	Rawson <i>et al.</i> (2011)
	Huong Son森林	≤ 50	2011	Rawson <i>et al.</i> (2011)
	Ke Go自然保护区	≤ 50	2010	Rawson <i>et al.</i> (2011)
	Khe Ve拟议自然保护区	灭光	2004	Rawson <i>et al.</i> (2011)
	Long Luong公社	灭光	2011	Rawson <i>et al.</i> (2011)
	Muong Nhe自然保护区	≤ 50	2010	Rawson <i>et al.</i> (2011)
	Ngoc Son-Ngo Luong	灭光	2007	Rawson <i>et al.</i> (2011)
	Pu Hoat自然保护区	灭光	2010	Rawson <i>et al.</i> (2011)
	Pu Hu自然保护区	灭光	2003	Rawson <i>et al.</i> (2011)
	Pu Huong自然保护区	灭光	2009	Rawson <i>et al.</i> (2011)
	Pu Luong自然保护区	灭光	2008	Rawson <i>et al.</i> (2011)

国家	地点名称	丰度等级	调查年	来源
	Pu Mat自然保护区	≤ 50	2011	Rawson <i>et al.</i> (2011)
	Sop Cop自然保护区	≤ 50	2011	Rawson <i>et al.</i> (2011)
	Thach Tuong公社	灭光	Post-2000	Rawson <i>et al.</i> (2011)
	Vu Quang自然保护区	≤ 50	2011	Rawson <i>et al.</i> (2011)
	Xuan Lien自然保护区	≤ 50	2007	Rawson <i>et al.</i> (2011)
	Xuan Nha自然保护区	灭光	2011	Rawson <i>et al.</i> (2011)

表33

东黑冠长臂猿(*Nomascus nasutus*)丰度估计

国家	地点名称	丰度等级	调查年	来源
中国	哀牢山国家自然保护区	51 - 100	2006 and 2010	CMBNR (2006); Li <i>et al.</i> (2011)
	Bangliang Gibbon NR	101 - 300 [^]	2016	Trịnh Đình Hoàng, Lê Văn Dũng và Nguyễn Văn Trờng (2016)
	黄连山国家自然保护区	≤ 50	2006	Ni and Ma (2006)
	西隆山 (分水岭国家自然保护区)	≤ 50		Ni and Ma (2006)
越南	Cao Vit Gibbon Conservation Area, Trung Khanh	101 - 300 [^]	2016	Hoang, Tran and Covert (2016)
	Kim Hy自然保护区	灭光	2009	Rawson <i>et al.</i> (2011)
	Lung Ri	灭光	2009	Rawson <i>et al.</i> (2011)
	Thanh Hen Lake	灭光	2011	Rawson <i>et al.</i> (2011)
	Than Sa-Phuong Hoang自然保护区	灭光	2010	Rawson <i>et al.</i> (2011)

注: [^]这一丰度估计来自中国和越南2016年联合发表的调查, 是针对中国邦亮长臂猿自然保护区和越南Trung Khanh县东黑冠长臂猿保护区两个跨国区域的估计。

表34

南白颊冠长臂猿(*Nomascus siki*)丰度估计

国家	地点名称	丰度等级	调查年	来源
老挝	Dong Phouoi经济林	存在	2005	Duckworth (2008)
	Hin Namno国家保护区	存在	2008	Duckworth (2008)
	Muang Boulapha	存在	1998	Duckworth (2008)
	Nakai-Nam Theun国家保护区	存在	2014	Coudrat and Nanthavong (2014)
	Nakai plateau	存在	2008	Duckworth (2008)
	Nam Kading国家保护区	存在	2010	Thinh <i>et al.</i> (2010)

国家	地点名称	丰度等级	调查年	来源
	Nam Theun Corridor	存在	2004	Duckworth (2008)
	Nam Theun Extension	存在	2007	Duckworth (2008)
	Nongkapat经济林	存在	2005	Duckworth (2008)
	Phou Hinpoun	存在	2008	Duckworth (2008)
	Xe Bang Fai headwaters	存在	1998	Duckworth (2008)
越南	Bac Huong Hoa自然保护区	≤ 50	2009	Rawson <i>et al.</i> (2011)
	Giang Man拟议的自然保护区	灭光	2004	Rawson <i>et al.</i> (2011)
	Khe Giua省林业企业	灭光	2006	Rawson <i>et al.</i> (2011)
	Khe Net拟议的自然保护区	灭光	2010	Rawson <i>et al.</i> (2011)
	Phong Nha - Ke Bang国家公园	51 - 100	2009	Rawson <i>et al.</i> (2011)
	Truong Son省林业企业	≤ 50	2009	Rawson <i>et al.</i> (2011)

注: 对在老挝有哪些物种还有一些争论, 可能有长臂猿种群的许多区域在这里没有列入。

表35

合趾猿(*Symphalangus syndactylus*)丰度估计

国家	地点名称	丰度等级	调查年	来源
印度尼西亚	Air Tarusan保护区	存在	2012	Chanee (2014)
		存在	2014	Chanee (2014)
	Bukit Barisan Selatan国家公园	20,001 - 50,000	1998 - 2002	O'Brien <i>et al.</i> (2003)
	Kalaweit Supayang保护区	存在	2014	Chanee (2014)
马来西亚	Ulu Sempam and Krau Game Reserve, Gunong Benom	存在	1969 - 73	Chivers (1974)

注: 未能找到这一物种在泰国的种群信息。

鸣谢

主要作者: Susan M. Cheyne, Hjalmar Kù hl, Liz Macfie, Fiona Maisels, Tenekwetché Sop, Serge Wich和Elizabeth Williamson

撰稿人: Marc Ancrenaz, Hedwige Boesch, Chanee, Loki Du Toit, Mark Grindley, Erik Meijaard, Vincent Nijman, Stuart Nixon, Emmanuel Normand和Ian Singleton

作者致谢: 作者十分感谢在Max Planck Institute for Evolutionary Anthropology的A.P.E.S. 工作人员。感谢为IUCN SSC A.P.E.S. 数据库提供信息的所有机构和个人, 他们的出版物和调查报告是这一附录中类人猿丰度估计的来源。

其他致谢: 作者十分感谢贡献数据、为自然保护和研究提供财务支持的所有资助机构和伙伴, 是你们使这些表格成为可能, 包括:

- African Wildlife Foundation 非洲野生动物基金会
- Agence Française de Développement 法国开发署
- Aspinall Foundation基金会
- Australian Research Council/Centre of Excellence and Future Fellowship programs 澳大利亚研究委员会/卓越中心和未来研究者项目
- Association of Zoos and Aquariums Ape TAG Conservation Initiative 动物园和水族馆协会种类顾问组自然保护倡议行动
- Barito River Initiative for Nature Conservation and Communities 巴里托河自然保护和社区倡议行动
- Borneo Nature Foundation 婆罗洲自然基金会
- Chester Zoo 动物园
- Columbus Zoo and Aquarium 哥伦布动物园和水族馆
- Conservation International 保护国际
- Critical Ecosystem Partnership Fund 关键生态系统伙伴基金
- Denver Zoo 丹佛动物园
- ECOFAC: Programme de Conservation et Utilisation Rationnelle des Ecosystèmes Forestiers en Afrique Centrale 中非森林生态系统保护和合理利用项目
- European Union/EuropeAid 欧洲联盟/欧洲开发合作局
- Fauna & Flora International 野生动植物保护国际
- Fondation Odzala-Kokoua
- Foundation for Environment and Development in Cameroon 喀麦隆环境和开发基金会
- Gibbon Conservation Alliance 长臂猿保护联盟
- Gilchrist Educational Trust 教育基金
- Global Environment Facility 全球环境基金
- Hellman Foundation 基金会
- HUTAN Kinabatangan Orang-utan Conservation Programme 猩猩保护项目
- Indianapolis Zoo 印第安纳州动物园
- Iris Darnton Foundation 基金会
- Jane Goodall Institute 珍古德协会
- Kalawit
- La Vallée des Singes Primate Centre
- Le Conservatoire pour la Protection des Primates
- Leakey Foundation 基金会
- Liz Claiborne Art Ortenberg Foundation 基金会
- Margot Marsh Biodiversity Foundation 生物多样性基金会
- Max Planck Institute for Evolutionary Anthropology
- Mohammed bin Zayed Species Conservation Fund 物种保护基金
- Monitoring of the Illegal Killing of Elephants (CITES) 非法杀戮大象监测项目
- Natural Sciences and Engineering Research Council of Canada 加拿大自然科学和工程研究委员会
- North of England Zoological Society at Chester Zoo 位于Chester动物园的英格兰北部动物学会
- Orangutan Conservancy 猩猩保护
- Orangutan Foundation International 猩猩基金会国际
- Orangutan Foundation UK 猩猩基金会英国

- Royal Geographical Society 皇家地理学会
- Royal Scottish Geographical Society 皇家苏格兰地理学会
- Rufford Foundation 基金会
- Seneca Park Zoo 公园动物园
- Spain-UNEP LifeWeb 西班牙-联合国环境规划署LifeWeb
- Sumatran Orangutan Conservation Programme 苏门答腊猩猩保护项目
- The Nature Conservancy 大自然保护协会
- Total Gabon 道达尔加蓬公司
- United Nations Educational, Scientific and Cultural Organization 联合国教科文组织
- United Nations Educational, Scientific and Cultural Organization/Central Africa World Heritage Forest Initiative 联合国教科文组织/中非世界遗产保护区森林项目
- United States Agency for International Development/Central African Regional Program for the Environment 美国国际发展部/中非区域环境项目
- United States Embassy in Laos 美国驻老挝大使馆
- United States Fish and Wildlife Service/Great Ape Conservation Fund 美国鱼类和野生动物服务/大型类人猿保护基金
- University of Aberdeen (Expedition, Alumni Annual and Small Grants Funds) 阿伯丁大学 (探险、同学会年度和小额拨款基金)
- Wild Chimpanzee Foundation 野生黑猩猩基金会
- Wildlife Conservation Society 野生动物保护学会
- World Bank 世界银行
- World Wide Fund for Nature/World Wildlife Fund 世界自然基金会
- Zoological Society of Milwaukee and its private donors to Salonga surveys 密尔沃基动物学会及对Salonga调查的私人资助者

缩写词列表

ANPN	Agence Nationale des Parcs Nationaux (Gabon) 全国国家公园管理局 (加蓬)
CAR	Central African Republic 中非共和国
CMBNR	Chuxiong Management Bureau of Nature Reserves 楚雄自然保护区管理局
Congo	刚果共和国 (刚果 (布))
DRC	Democratic Republic of Congo 刚果民主共和国
FFI	Fauna and Flora International 野生动植物保护国际
FMU	Forest management unit 森林管理单元
FR	Forest reserve 森林保护区
GDANCP	General Department of Administration for Nature Conservation and Protection (Cambodia) 自然保护和保护管理局 (柬埔寨)
ICCN	Institut Congolais pour la Conservation de la Nature 刚果自然保护学会
IUCN	International Union for Conservation of Nature (also UICN) 世界自然保护联盟
JGI	Jane Goodall Institute 珍古德协会
Lao PDR	老挝人民民主共和国
MINFOF	Minist ère des For êts et de la Faune, Cameroon 森林和动物部, 喀麦隆
MoE	Ministry of the Environment 环境部
No.spp.	number of species 物种数量
NP	national park 国家公园
NPA	national protected area 国家保护区
NR	nature reserve 自然保护区
OuTROP	Orangutan Tropical Peatland Project 猩猩热带泥炭土地项目
REGOMUKI	R é serve de Gorilles de Mukingiti et Kingombe
RGPU	R é serve des Gorilles de Punia
SFE	state forest enterprise 省森林企业
SHCA	Species and Habitat Conservation Area 物种和栖息地保护区
SSC	Species Survival Commission 物种存续委员会
IUCN	Union Internationale pour la Conservation de la Nature (also IUCN) 世界自然保护联盟

WCF	Wild Chimpanzee Foundation 野生黑猩猩基金会
WCS	Wildlife Conservation Society 野生动物保护学会
WWF	World Wide Fund for Nature/World Wildlife Fund 世界自然基金会
ZIC	zone d'intérêt cynégétique (hunting zone) 捕猎区
ZICGC	zone d'intérêt cynégétique à gestion communautaire (community-managed hunting zone)

尾注

- 1 2007年开发了一个统计工具, 如果对每个巢都收集了适当的协变量, 可以事后用于区分分布区重叠的大猩猩和黑猩猩建的巢 (Sanz *et al.*, 2007)。

参考资料

- Aba'a, R. (2006) *Abondance relative des grands mammifères et des activités humaines au Parc National des Monts de Cristal et sa périphérie (Gabon, 2005)*. Libreville, Gabon: WCS and Parcs Gabon. Unpublished report.
- Aba'a, R. and Bezangoye, A. (2007). *Estimation de la densité, de l'abondance et de la distribution relative des grands mammifères et l'impact des humains au Parc National des Monts Birougou et ses environs: établissement d'une ligne de base pour le monitoring*. Libreville, Gabon: WCS. Unpublished report.
- Aba'a, R., Maisels, F., Starkey, M. and Memiaghe, H.R. (2011). *Inventaire des grands mammifères et l'impact humaine dans le Mayombe. Activité 3.1b part 1: rapport final*. Libreville, Gabon: WCS. Unpublished report.
- Abitsi, G. (2006). *Inventaires de reconnaissance des grands mammifères et de l'impact des activités anthropiques. Parc National de Waka, Gabon, Décembre, 2005-Juillet, 2006*. Libreville, Gabon: WCS. Unpublished report.
- Adanu, J., Sommer, V. and Fowler, A. (2011). Hunters, fire, cattle: conservation challenges in eastern Nigeria, with special reference to chimpanzees. In *Primates of Gashaka. Developments in Primatology: Progress and Prospects*, ed. V. Sommer and C. Ross. Berlin, Germany: Springer, pp. 55–99. DOI: 10.1007/978-1-4419-7403-7_3.
- Aebischer, T., Sigundo, G., Rochat, E., *et al.* (2017). First quantitative survey delineates the distribution of chimpanzees in the Eastern Central African Republic, *Biological Conservation*, **213**, 84-94. doi.org/10.1016/j.biocon.2017.06.031.
- Ahsan, M.F. (2001). *Socio-ecology of the hoolock gibbon (Hylobates hoolock) in two forests of Bangladesh*. Presented at: The Apes: Challenges for the 21st Century, May 10–13, 2000, Brookfield Zoo, Brookfield, IL. Chicago Zoological Society.
- Akers, A.A., Islam, M.A. and Nijman, V. (2013). Habitat characterization of western hoolock gibbons Hoolock hoolock by examining home range microhabitat use. *Primates*, **54**, 341–8.
- Allam A., N'Goran P., Mahoungou S. and Ikoa B. (2016) *Rapport d'inventaire des grands et moyens mammifères dans la forêt de Djoua-Ivindo*. Rapport du Ministère de l'Economie et du développement Durable et du Bureau Régional du WWF pour l'Afrique, Programme TRIDOM. Unpublished Report.
- Allam A., Beukou G.B., N'Goran P., and Mahoungou S. (2017) *Rapport d'inventaire des grands et moyens mamifères dans la forêt de Messok-Dja*. Rapport du Ministère de l'Economie et du développement Durable du Congo et du Bureau Régional du WWF pour l'Afrique, Programme TRIDOM. Unpublished Report.
- Anonymous. (1989). *Developpement Rural – Projet Bururi-Rumonge-Vyanda (Burundi)*. In Barakabuye *et al.* (2007) *Conservation of chimpanzees in the Congo-Nile Divide forests of Rwanda and Burundi*. Kigali, Rwanda: WCS. Unpublished report.
- ANPN. (2013). *Wildlife and poaching assessment in northeast Gabon: results of the pilot study. Final report*. Libreville, Gabon: Agence Nationale des Parcs Nationaux (ANPN)/WCS/WWF. Unpublished report.
- Barakabuye, N., Mulindahabi, F., Plumptre, A.J., *et al.* (2007). *Conservation of chimpanzees in the Congo-Nile Divide forests of Rwanda and Burundi*. Kigali, Rwanda: WCS. Unpublished report.
- Bartlett, T.Q. (2009). *The Gibbons of Khao Yai: Seasonal Variation in Behavior and Ecology*. Upper Saddle River, NJ: Pearson.
- Bassouama, A., Bongui, A.S., Ibata, S. and Mahamadou, M. (2006). *Rapport d'inventaire faune et bois commercial*

- dans la zone ETIC, sud-ouest du Parc National d'Odzala-Kokoua, 2006. Brazzaville, Congo: Ministère de l'Économie Forestière et de l'Environnement/Parc National d'Odzala-Kokoua/ WWF. Unpublished report.
- Bermejo, M., Rodriguez-Tejreiro, J.D., Illera, G., *et al.* (2006). Ebola outbreak killed 5000 gorillas. *Science*, **314**, 1564.
- Bezangoye, A. and Maisels, F. (2010). *Great ape and human impact monitoring in the Lopé - Waka Exceptional Priority Area, Gabon. Part 1: Lopé National Park*. Libreville, Gabon: WCS. Unpublished report.
- Blake, S., Strindberg, S. and Princée, F. (2012). *Evaluation of the CARPO/GHOA Biological Monitoring Programme. Reporting on Consultancy Contract No. WWF CARPO/AFGAP/FY12/CC/030 and Project Activity No. 9F0865.01*. Morges, Switzerland: WWF.
- Bobo, K., Ntumwel, B.C. and Aghomo, F.F.M. (2013). Local perception on wildlife uses and related loss of cultural values around the Nkwende Hills Forest Reserve, South-West Cameroon. *Life Sciences Leaflets*, **5**, 1–8.
- Bombome, K. (2007). *Evaluation du potentiel faunique mammalien dans l'UFA 10-047a concession forestière 1057. Diversité biologique, densité, activités humaines et distribution spatiale de la faune sauvage*. Yaoundé, Cameroon: Horizon Vert Groupement d'Intérêt Économique (GIE). Unpublished report.
- Boonratana R., Duckworth J.W., Phiapalath, P., Reumaux, J-F. and Sisomphane, C. (2011). The Precarious Status of the White-Handed Gibbon *Hylobates lar* in Lao PDR. *Asian Primates*, **2**:13–20.
- Bout, N. (2006). *Parc National des Plateaux Batéké suivi écologique des grands mammifères et de la pression humaine. Rapport final*. Libreville, Gabon: WCS and John Aspinall Foundation. Unpublished report.
- Brcnic, T.M., Amarasekaran, B. and McKenna, A. (2010). *Final Report of the Sierra Leone National Chimpanzee Census Project*. Freetown, Sierra Leone: Tacugama Chimpanzee Sanctuary.
- Bryant, J.V. (2014). *Developing a conservation evidence-base for the critically endangered Hainan gibbon (Nomascus hainanus)*. PhD thesis. London, UK: University College London and Institute of Zoology (ZSL).
- Buzzard, P.J. and Parker, A.J.A. (2012). Surveys from the Subri River Forest Reserve, Ghana. *African Primates*, **7**, 175–83.
- Campbell, G. and Hounbedji, M. (2015). *Conservation status of the West African chimpanzee (Pan troglodytes verus) in Togo and Benin*. Arlington, VA: Primate Action Fund. Unpublished report.
- Campbell, G., Kuehl, H., N'Goran Kouamé, P. and Boesch, C. (2008). Alarming decline of West African chimpanzees in Côte d'Ivoire. *Current Biology*, **18**, 903–4.
- Carvalho, J.S., Marques, T.A. and Vicente, L. (2013). Population status of *Pan troglodytes verus* in Lagoas de Cufada Natural Park, Guinea-Bissau. *PLoS One*, **8**, e71527.
- Chancellor, R.L., Langergraber, K., Ramirez, S., Rundus, A.S. and Vigilant, L. (2012). Genetic sampling of unhabituated chimpanzees (*Pan troglodytes schweinfurthii*) in Gishwati Forest Reserve, an isolated forest fragment in western Rwanda. *International Journal of Primatology*, **33**, 479–88.
- Chetry, R. and Chetry, D. (2010). First record of eastern hoolock gibbon in Assam, India. *Primate Conservation*, **25**, 95–7.
- Cheyne, S. M. (2011). *Orangutan Tropical Peatland Project Report Ex-Mega Rice Project Gibbon Density and Comparisson with Other Sites*. Palangka Raya: OuTROP.
- Cheyne, S. M., Gilhooly, L. J., Hamard, M. C., *et al.* (2016) Population mapping of gibbons in Kalimantan, Indonesia: Correlates of Gibbon Density and Vegetation across the species range. *Endangered Species Research*, **30**, pp.133–143.
- Cheyne, S.M., Thompson, C.J.H., Phillips, A.C., Hill, R.M.C. and Limin, S.H. (2007). Density and population estimate of gibbons (*Hylobates albibarbis*) in the Sabangau Catchment, Central Kalimantan, Indonesia. *Primates*, **49**, 50–6.
- Cheyne, S.M., Zrust, M., Höing, A., *et al.* (2012). *Barito River Initiative for Nature Conservation and Communities (BRINCC) Preliminary Report*. Palangka Raya, Indonesia: BRINCC Expedition.
- Chivers, D.J. (1974). *The Siamang in Malaya: A Field Study of a Primate in Tropical Rainforest. Volume 4*. Basel, Switzerland: Karger.
- Choudhury, A.U. (2000). A survey of hoolock gibbon (*Hylobates hoolock*) in Dibru-Saik-Howa National Park, Assam, India. *Primate Report*, **56**, 61–6.
- CMBNR (Chuxiong Management Bureau of Nature Reserves) (2006). *Survey and research of western black crested gibbon in Chuxiong prefecture, Yunnan*. CMBNR, Internal Report

- Coudrat, C.N.Z. and Nanthavong, C. (2014). *Gibbon survey and taxonomical status in Nakai-Nam Theun National Protected Area, Laos reveals one of the largest remaining populations of white-cheeked gibbons: implications for their long-term conservation*. Presented at: XXV Congress of the International Primatological Society (IPS), Hanoi, Viet Nam.
- Danquah, E., Oppong, S.K., Akom, E. and Sam, M. (2012). Preliminary survey of chimpanzees and threatened monkeys in the Bia-Goaso forest block in southwestern Ghana. *African Primates*, **7**, 163–74.
- Das, J., Bhattacharjee, P.C., Biswas, J. and Chetry, D. (2005). *Western Hoolock Gibbon: Socioecology, Threats and Conservation Action Plan*. Guwahati, India: Department of Zoology, Gauhati University, and Primate Research Centre, Northeast Centre.
- Davenport, T.R.B., Mpunga, N., Philips, G.P., et al. (2010). *The conservation status of the chimpanzee (Pan troglodytes schweinfurthii) in southern Tanganyika*. Tanzania: WCS. Unpublished report.
- De Vere, R.A., Warren, Y., Nicholas, A., Mackenzie, M.E. and Higham, J.P. (2011). Nest site ecology of the Cross River gorilla at the Kagwene Gorilla Sanctuary, Cameroon, with special reference to anthropogenic influence. *American Journal of Primatology*, **73**, 253–61.
- Duckworth, J.W. (2008). *Preliminary gibbon status review for Lao PDR 2008*. Hanoi, Viet Nam: FFI. Unpublished report.
- Dunn, A., Bergl, R., Byler, D., et al. (2014). *Revised Regional Action Plan for the Conservation of the Cross River Gorilla (Gorilla gorilla diehli) 2014–2019*. New York, NY: IUCN SSC Primate Specialist Group and WCS.
- Ekinde, A. and Ashu, M. (2006). *Preliminary survey of apes around the Assaka forest, Akwaya Subdivision, South West Province, Cameroon*. Limbe, Cameroon: WCS. Unpublished report.
- Ekinde, A., Ashu, M. and Sunderland-Groves, J. (2005). *Preliminary ape surveys around the Fungom Forest Reserve and Furu-Awa Subdivision, North West Province, Cameroon*. Limbe, Cameroon: WCS. Unpublished report.
- Ekobo, A. (2007). *Etude sur les potentialites fauniques de l'UFA 00-004 Province du Littoral, Cameroon*. Yaoundé, Cameroon: WWF. Unpublished report.
- Ekobo, A., (2006). *Evaluation des potentialites fauniques du Sanctuaire des gorilles a Mengame*. pp. 51. Yaoundé, Cameroon: WWF.
- Ellioti.org (n.d.). *Numbers Spreadsheet*. Ellioti.org. Available at: <http://www.elliotti.org/numbers.xls>.
- Eno Nku, M. (2003a). *Rapid large mammal assessment of Ejagham Forest Reserve, South West Province, Cameroon*. Limbe, Cameroon: WCS. Unpublished report.
- Eno Nku, M. (2003b). *Rapid large mammal assessment of Nkwende Hills forest concession (UFA 11-001) and Upper Banyang forest concession (UFA 11-002), South West Province, Cameroon*. Limbe, Cameroon: WCS. Unpublished report.
- Eno Nku, M. (2004a). *Large mammal reconnaissance surveys of Lake Barombi Mbo and Southern Bakundu Forest Reserves, SW Province Cameroon*. Limbe, Cameroon: WCS. Unpublished report.
- Eno Nku, M. (2004b). *Large mammal reconnaissance surveys of Mt Etinde Forest Reserve, SW Province, Cameroon*. Limbe, Cameroon: WCS. Unpublished report.
- Eno Nku, M. and Ekobo, A. (2007). *Large mammal surveys of the proposed Mount Cameroon National Park*. Yaoundé, Cameroon: WWF. Unpublished report.
- Etoga, G. (2001). *Étude sur les potentialités fauniques de l'UFA 10038*. Yaoundé, Cameroon: WWF. Unpublished report.
- Etoga, G. (2002). *Étude sur les potentialités fauniques de l'UFA 10-039. Rapport pour RP Pallisco*. Yaoundé, Cameroon: WWF. Unpublished report.
- Etoga, G. (2008). *Étude sur les potentialités fauniques de l'UFA 09-024, Sud Cameroun*. Yaoundé, Cameroon: WWF. Unpublished report.
- Fan, P.F. and Huo, S., (2009). *The northern white-cheeked gibbon (Nomascus leucogenys) is on the edge of extinction in China*. *Gibbon Journal*, **5**, pp.44–52.
- Fan, P-F., Ren, G-P., Wang, W., et al. (2013). Habitat evaluation and population viability analysis of the last population of cao vit gibbon (*Nomascus nasutus*): implications for conservation. *Biological Conservation*, **161**, 39–47.
- Fan, P.F., Xiao, W., Huo, S., Ai, H., Wang, T. and Lin, R. (2011). *Distribution and conservation status of the Vulnerable eastern hoolock gibbon Hoolock leuconedys in China*. *Oryx*, **45**, pp.129–134.
- Fonkwo, N.S., Angwafo, T.E. and Mbida, M. (2011). Abundance and distribution of large mammals in the Bakossi

- landscape area, Cameroon. *Journal of Soil Science and Environmental Management*, **2**, 43–8.
- Fotso, R., Eno Nku, M. and Groves, J. (2002). *Distribution and conservation status of gorilla population in the forests around Belabo, Eastern Province, Cameroon. Report to Cameroon Oil Transportation Company (COTCO)*. Limbe, Cameroon: WCS. Unpublished report.
- Gašperšič, M. and Pruetz, J.D. (2011). Chimpanzees in Bandafassi arrondissement, southeastern Senegal: field surveys as a basis for the sustainable community-based conservation. *Pan Africa News*, **18**, 23–5.
- Gatti, S. (2009). *Status of Primate Populations in Protected Areas Targeted by the Community Forest Biodiversity Project*. Heidelberg, Germany: West African Primate Conservation Action (WAPCA).
- Geissmann, T., Grindley, M.E., Ngwe, L., et al. (2013). *The Conservation Status of Hoolock Gibbons in Myanmar*. Zurich, Switzerland: Gibbon Conservation Alliance.
- Gilhooly, L.J., Rayadin, Y. and Cheyne, S.M. (2015). A comparison of hylobatid survey methods using triangulation on Müller's gibbon (*Hylobates muelleri*) in Sungai Wain Protection Forest, East Kalimantan, Indonesia. *International Journal of Primatology*, in press. DOI: 10.1007/s10764-015-9845-1.
- Ginn, L.P., Robison, J., Redmond, I. and Nekaris, K.A.I. (2013). Strong evidence that the West African chimpanzee is extirpated from Burkina Faso. *Oryx*, **47**, 325–6.
- Granier, N., Hambuckers, A., Matsuzawa, T. and Huynen, M.-C. (2014). Density estimates and nesting-site selection in chimpanzees of the Nimba Mountains, Côte d'Ivoire, and Guinea. *American Journal of Primatology*, **76**, 999–1010.
- Gray, T., Phan, C. and Long, B. (2010). Modelling species distribution at multiple spatial scales: gibbon habitat preferences in a fragmented landscape. *Animal Conservation*, **13**(3), pp.324–332.
- Greater Virunga Transboundary Collaboration. (2018). *Mountain gorilla numbers surpass 1,000*. Kigali, Rwanda: ICCN, Rwanda Development Board and Uganda Wildlife Authority. Available at: http://www.greatervirunga.org/IMG/pdf/gvtcpress_release_gorila_census_31_may18_2_-2_.pdf
- Greengrass, E.J. (2006). *A survey of chimpanzees in south-west Nigeria*. Lekki, Nigeria: Nigerian Conservation Foundation and WCS. Unpublished report.
- Greengrass, E.J. and Maisels, F. (2007). *Conservation of the Nigeria-Cameroon chimpanzee P. t. vellerosus (and other mammals) in and around the Banyang-Mbo Wildlife Sanctuary, South-West Province, Cameroon*. Limbe, Cameroon: WCS. Unpublished report.
- Grossmann, F., Hart, J., Vosper, A. and Ilambu, O. (2008). Range occupation and population estimates of bonobos in the Salonga National Park: application to large-scale surveys of bonobos in the Democratic Republic of Congo. In *The Bonobos: Behaviour, Ecology and Conservation*, ed. T. Furuichi and J. Thompson. New York, NY: Springer Publishing, pp. 189–216.
- Grueter, C.C., Jiang, X., Konrad, R., et al. (2009). Are *Hylobates lar* extirpated from China? *International Journal of Primatology*, **30**, 553–67.
- Hakizimana, D. and Huynen, M.-C. (2013). Chimpanzee (*Pan troglodytes schweinfurthii*) population density and abundance in Kibira National Park, Burundi. *Pan Africa News*, **20**, 16–9.
- Harrison, M.E., Cheyne, S.M., Husson, S.J., et al. (2012). *Preliminary Assessment of the Biodiversity and Conservation Value of the Bawan Forest, Central Kalimantan, Indonesia*. Palangka Raya, Indonesia: OuTROP.
- Harrison, M.E., Hendri, Dragiewicz, M.L., et al. (2010). *Biodiversity of the Mungku Baru Ulin Forest, Central Kalimantan, Indonesia. Report Produced by the Orangutan Tropical Peatland Project (OuTrop) for International Animal Rescue*. Palangka Raya, Indonesia: OuTrop/International Animal Rescue (IAR).
- Haurez, B., Petre, C.-A., Vermeulen, C., Tagg, N. and Doucet, J.-L. (2014). Western lowland gorilla density and nesting behavior in a Gabonese forest logged for 25 years: implications for gorilla conservation. *Biodiversity and Conservation*, **23**, 2669–87.
- Herbinger, I. (2007). *Chimpanzee survey in Azagny National Park*. Abidjan, Ivory Coast: WCF. Unpublished report.
- Herbinger, I. and Tounkara, E.O. (2002). *A rapid survey of primates in the Simandou Range, Pic de Fon, Guinea*. Abidjan, Ivory Coast: WCF. Unpublished report.
- Hoang Minh Duc, Tran Van Bang, Mai Xuan Tinh et al. (2014). *Final report on Fauna in Quang Truc Commune, Tuy Duc District, Dak Nong Province, with an emphasis on population assessment of yellow-cheeked crested gibbon*. Technical report to FFI Hochiminh City, Viet Nam.

- Hoang Minh Duc, Tran Van Bang and Covert, H.H. (2015). *Assessment of conservation status and strengthening conservation of Yellow-cheeked crested gibbon and other primates in Southeastern Slope of the Da Lat Plateau, Viet Nam*. Hochiminh City, Viet Nam: FFI.
- Hoang Minh Duc, Tran Van Bang, and Covert H.H. (2016). *Strengthening conservation of the northern yellow-cheeked gibbon, Nomascus annamensis, and the establishment of community-based monitoring group on the eastern slope of the Central Annamites, Viet Nam*. Hochiminh City, Viet Nam: Southern Institute of Ecology.
- Höing, A., Quinten, M. C., Indrawati, Y. M., Cheyne, S. M., & Waltert, M. (2013). Line Transect and Triangulation Surveys Provide Reliable Estimates of the Density of Kloss' Gibbons (*Hylobates klossii*) on Siberut Island, Indonesia. *International Journal of Primatology*, **34**(1), 148 – 156. <http://doi.org/10.1007/s10764-012-9655-7>
- Ikati, B., Liengola, I., Maisels, F., 2017. *Rapport des inventaires biologiques réalisés dans le bloc Lomela du parc national de la Salonga*. WCS and ICCN, Kinshasa, DRC.
- Ikemeh, R.A. (2013). Population survey of Nigeria-Cameroon chimpanzees (*Pan troglodytes ellioti*) in southwestern Nigerian priority sites: Idanre forest cluster and Ise Forest Reserve. *African Primates*, **8**, 39 – 50.
- Imong, S., Mengnjo, C. and Okeke, F. (2009). *Gorilla census of Boshi Extension and Okwa Hills, Cross River National Park, Nigeria, December, 2009*. Nigeria: Cross River National Park and WCS. Unpublished report.
- Imong, S. and Okeke, F. (2009). *Gorilla census of the Mbe Mountains Community Wildlife Sanctuary, Cross River State, Nigeria, September, 2009*. Nigeria: WCS, Conservation Association of Mbe Mountains and Cross River State Forestry Commission. Unpublished report.
- Imong, S., Wood, K. and Okeke, F. (2009). *Great ape and drill survey of the Afi mountain wildlife sanctuary, Cross River State, Nigeria*. Nigeria: WCS, Pandrillus and Cross River State Forestry Commission. Unpublished report.
- Inogwabini, B.-I., Abokome, M., Kamenge, T., Mbende, L. and Mboka, L. (2012). Preliminary bonobo and chimpanzee nesting by habitat type in the northern Lac Tumba landscape, Democratic Republic of Congo. *African Journal of Ecology*, **50**, 285 – 98.
- Inogwabini, B.-I., Matungila, B., Mbende, L., Abokome, M. and wa Tshimanga, T. (2007). Great apes in the Lake Tumba landscape, Democratic Republic of Congo: newly described populations. *Oryx*, **41**, 532 – 8.
- Iskandar, E. (2007). *Habitat dan Populasi Owa Jawa (Hylobates moloch Audebert, 1797) di Taman Nasional Gunung Halimun-Salak Jawa Barat*. PhD thesis. Bogor, Indonesia: Institut Pertanian Bogor.
- Islam, M.A. and Feeroz, M.M. (1992). Ecology of hoolock gibbon of Bangladesh. *Primates*, **33**, 451 – 64.
- IUCN (2014). *Regional Action Plan for the Conservation of Western Lowland Gorillas and Central Chimpanzees 2015 – 2025*. Gland, Switzerland: International Union for Conservation of Nature Species Survival Commission ((IUCN SSC) Primate Specialist Group. DOI: 10.2305/IUCN.CH.2005.SSC-RAP.1.en
- IUCN (2015). *The IUCN Red List of Threatened Species. Version 2015.2*. Gland, Switzerland: IUCN.
- IUCN and ICCN (2012). *Bonobo (Pan paniscus): Conservation Strategy 2012 – 2022*. Gland, Switzerland: IUCN SSC Primate Specialist Group and ICCN.
- Iyenguet, F.C., Madzoke, B., Twagirashyaka, F., et al. (2012). *Inventaire des grands mammifères et activités humaines dans la Batanga, péripéri est de la réserve communautaire du Lac Télié, République du Congo*. Brazzaville, Congo: WCS. Unpublished report.
- Iyenguet, F.C., Malanda, G.F., Madzoke, B. and Twagirashyaka, F. (2008). *Recensement et distribution des grands mammifères et activités humaines dans la zone Impfondo*. Brazzaville, Congo: WCS. Unpublished report.
- Kormos, R. and Boesch, C. (2003). *Regional Action Plan for the Conservation of Chimpanzees in West Africa* [Published in English and French]. Washington DC: IUCN SSC Primate Specialist Group and Conservation International.
- Kouakou Y. C., Vergnes v. and Normand E. (2013). *Population status and monitoring of the western chimpanzee (Pan troglodytes verus) and other large mammals in the Grebo National Forest, Liberia*. Unpublished report of the WCF and the Liberian Forestry Development Authority.
- Kuchambi, E. and Ikfuingei, R. (2014). *The Takamanda National Park: large mammal survey, May – July, 2013*. Limbe, Cameroon: WCS. Unpublished report.
- Kumar, A., Sarma, K., Krishna, M., and Devi, A. (2013). The eastern hoolock gibbon (*Hoolock leuconedys*) in Eastern Arunachal Pradesh, India. *Primate Conservation*, **27**, 115 – 23.
- Latour, S. (2005). *Inventaire de faune autour des lacs du delta de l'Ogooué*. Libreville, Gabon: WCS. Unpublished

report.

- Latour, S. (2006). *Recensement des éléphants et de grands singes dans la région du Parc National de Pongara (Gabon)*. Libreville, Gabon: WCS. Unpublished report.
- Le-Duc Yeno, S. and N’Goran, K.P., (2016). *Rapport de l’inventaire des grands et moyens mammifères dans la forêt de Djoua-Zadié*. pp. 44. Libreville, Gabon: WWF.
- Levo, P.K., Tsakala, P., Lushimba, A., Akpona, H.A., Maputla, N.W., 2015. *Lomako Yokokala Faunal Reserve Biological Survey*, p. 30. African Wildlife Foundation (AWF), Kinshasa, DRC.
- Li, G.S., Yang, X.M., Zhang, H.Y., and Li, W. (2011). Population and distribution of western black crested gibbon (*Nomascus concolor*) at Ailao Mountain, Xinning, Yunnan. *Zoological Research*, **32**, 675–83.
- Liengola, I., Vosper, A., Maisels, F., Bonyenge, A. and Nkumu, P. (2009). *Conserving bonobos in the last unexplored forest of the Democratic Republic of Congo: the Tshuapa-Lomami-Lualaba landscape*. Kinshasa, DRC: WCS. Unpublished report.
- Lushimba, A., Kasalevo, P. and Fowler, A. (2012). *Estimation de la densité, de l’abondance et de la distribution relative des grands mammifères et l’impact des humains dans La Réserve d’Iyondji: établissement d’une ligne de base pour le biomonitoring*. Kinshasa, DRC: African Wildlife Foundation (AWF). Unpublished report.
- Luo, Z. (2011). Survey on populations and distribution of western black crested gibbons (*Nomascus concolor jingdongensis*) from Wuliang Shan National Nature Reserve. *Sichuan Journal of Zoology*, **30**, pp.283–287.
- Mahop, J.P. (2007). *Densité, abondance et distribution spatio-temporelle des grands et moyens mammifères diurnes dans la ZICGCS 9*. Yaoundé, Cameroon: WWF and Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH (German Technical Cooperation). Unpublished report.
- Maisels, F. (2009). *Densities of great apes and elephants, Loango National Park, Gabon*. Libreville, Gabon: WCS. Unpublished report.
- Maisels, F., Abitsi, G. and Bezangoye, A. (2008). *Great ape and human impact monitoring in the Lopé-Waka Exceptional Priority Area, Gabon. Part 2: the Lopé-Waka corridor*. Libreville, Gabon: WCS. Unpublished report.
- Maisels, F., Ambahe, E., Ambassa, R., Nvemgah Yara, C. and Fosso, B. (2009). *Great ape and human impact monitoring in the Mbam et Djere National Park, Cameroon*. Yaoundé, Cameroon: WCS. Unpublished report.
- Maisels, F. and Ella Akou, M. (2013). *Mwagna National Park: report on WWF survey 2012*. Libreville, Gabon: ANPN, WCS and WWF. Unpublished report.
- Maisels, F., Nishihara, T., Strindberg, S., et al. (2012). *Great ape and human impact monitoring training, surveys, and protection in the Ndoki-Likouala landscape, Republic of Congo*. Brazzaville, Congo: WCS. Unpublished report.
- Maisels, F., Nkumu, P., Bonyenge, A. and Naky, P. (2010). *Salonga National Park, Democratic Republic of Congo: terrestrial wildlife and human impact monitoring programme. Survey report: eastern sector of park*. Kinshasa, DRC: WCS. Unpublished report.
- Maisels, F., Strindberg, S., Ambahe, R., et al. (2013a). *Deng Deng National Park and UFA 10-065, Republic of Cameroon. Wildlife and human impact survey 2012*. Yaoundé, Cameroon: WCS. Unpublished report.
- Maisels, F., Strindberg, S., Kiminou, F., et al. (2013b). *Wildlife and human impact survey 2012, and monitoring 2005–2008–2012*. Brazzaville, Congo: Fondation Odzala-Kokoua and WCS. Unpublished report.
- Maisels, F., Strindberg, S., Rayden, T., et al. (2015). *Wildlife and human impact survey of the Ngombé Ntoukou-Pikounda forest landscape, Republic of Congo, Feb–Oct, 2014*. Brazzaville, Congo: WCS. Unpublished report.
- Makaya, Q.P. (2010). *Monitoring écologique des grands mammifères terrestres et l’impact anthropique dans le Parc National de Mayumba, Gabon: rapport final*. Libreville, Gabon: WCS. Unpublished report.
- Malanda, G., Iyenguet, F. and Madzoke, B. (2010). *Inventaire et distribution des grands mammifères et activités humaines dans la zone Tanga*. Brazzaville, Congo: WCS. Unpublished report.
- Maldonado, O., Aveling, C., Cox, D., et al. (2012). *Grauer’s Gorillas and Chimpanzees in Eastern Democratic Republic of Congo (Kahuzi-Biega, Maiko, Tayna and Itombwe Landscape): Conservation Action Plan 2012–2022*. Gland, Switzerland: IUCN SSC Primate Specialist Group/Ministry of Environment, Nature Conservation and Tourism, ICCN and JGI.
- Marshall, A.J., Beaudrot, L. and Wittmer, H.U. (2014). Responses of primates and other frugivorous vertebrates to plant resource variability over space and time at Gunung Palung National Park. *International Journal of Primatology*, **35**, 1178–201.

- McCarthy, M. S., Lester, J. D., Howe, E. J., Arandjelovic, M., Stanford, C. B., & Vigilant, L. (2015). Genetic censusing identifies an unexpectedly sizeable population of an endangered large mammal in a fragmented forest landscape. *BMC Ecology*, **21**: 15.
- McCullough, J., Alonso, L.E., Naskrecki, P., Wright, H.E. and Osei-Owusu, Y. (2007). *A Rapid Biological Assessment of the Atewa Range Forest Reserve, Eastern Ghana. RAP Bulletin of Biological Assessment 47*. Arlington, VA: Conservation International.
- McLennan, M. (2013). Diet and feeding ecology of chimpanzees (*Pan troglodytes*) in Bulindi, Uganda: foraging strategies at the forest-farm interface. *International Journal of Primatology*, **34**, 585 – 614.
- MINFOF and IUCN (2015). *Caractérisation de la population de grands et moyens mammifères dans la Réserve de Faune du Dja: Potentiel et menaces*. Yaoundé, Cameroon: Ministère des Forêts et de la Faune and IUCN. pp. 54 + annexes.
- Morgan, B. (2010). The gorillas of the Ebo forest, Cameroon. *Gorilla Journal*, **40**, 16 – 8.
- Morgan, B., Adeleke, A., Basse, T., et al. (2011). *Regional Action Plan for the Conservation of the Nigeria-Cameroon Chimpanzee (Pan troglodytes ellioti)*. San Diego, CA: IUCN SSC Primate Specialist Group and Zoological Society of San Diego.
- Motsaba, P. and Aba'a, R. (2011). *Inventaire préliminaire de grands mammifères et des activités anthropiques à la Réserve Présidentielle de Wonga-Wongu*. Libreville, Gabon: WCS/Projet GEF PARCS Composante 2. Unpublished report.
- Motsaba, P. and Maisels, F. (2010). *Recensement de grands mammifères et des impacts humains dans les concessions forestières situées dans la périphérie sud et sud-ouest du Parc National d'Ivindo*. Libreville, Gabon: WCS. Unpublished report.
- Motsaba, P., Tezi, J.P., Aba'a, R. and Maisels, F. (2009). *Recensement des grands mammifères et des impacts humains au Parc National d'Ivindo. Cycle de monitoring II*. Libreville, Gabon: Parcs Gabon and WCS. Unpublished report.
- Murai, M., Ruffler, H., Berlemont, A., et al. (2013). Priority areas for large mammal conservation in Equatorial Guinea. *PLoS One*, **8**, e75024.
- N'Goran, P.K. (2007). *Quelques résultats de la première phase du biomonitoring au Parc National de la Marahoué (Mai. 2006-Décembre. 2006)*. Abidjan, Ivory Coast: WCF and l'Office Ivoirien des Parcs et Réserves. Unpublished report.
- N'Goran K.P., Ndomba D.L. and Beukou G.B. (2016). *Rapport de l'inventaire des grands et moyens mammifères dans le segment RCA du paysage trinational de la Sangha*. Bayanga, Central African Republic: WWF. Unpublished Report.
- Nakashima, A., Iwata, Y., Ando, C., et al. (2013). Assessment of landscape-scale distribution of sympatric great apes in African rainforests: concurrent use of nest and camera-trap surveys. *American Journal of Primatology*, **75**, 1220 – 30.
- Nater, A.; Mattle-Greminger, M.P.; Nurcahyo, A. et al. (2017). Morphometric, Behavioral, and Genomic Evidence for a New Orangutan Species. *Current Biology*, **27**, 1-12. DOI: <http://dx.doi.org/10.1016/j.cub.2017.09.047>.
- Ni, Q. and Ma, S., (2006). Population and distribution of the black crested gibbons in southern and southeastern. *Yunnan Zoological Research*, **27**, pp.34 – 40.
- Nijman, V. (2004). Conservation of the Javan gibbon *Hylobates moloch*: population estimates, local extinctions and conservation priorities. *Raffles Bulletin of Zoology*, **51**, 271 – 80.
- Nijman, V. and Menken, S.B.J. (2005). Assessment of census techniques for estimating density and biomass of gibbons (Primates: Hylobatidae). *Raffles Bulletin of Zoology*, **53**, 169 – 79.
- Nixon, S., Plumpton, A.J., Pintea, L., et al. (2012). *The forgotten gorilla: historical perspectives and future challenges for conserving Grauer's gorilla (abstract)*. Presented at: XXIV Congress of the International Primatological Society (IPS), Cancún, Mexico.
- Normand, E., Singo, B. and Boesch, C. (2010). *Rapport de suivi écologique dans les forêts classées de Goin-Débé et de Cavally (2007 – 2010)*. Abidjan, Ivory Coast: WCF. Unpublished report.
- Nzooh D. Z., N'Goran K.P., Fondja C. and Nkono J. (2015). *Evaluation de la dynamique des populations de grands et moyens mammifères dans le domaine forestier permanent de l'unité technique opérationnelle Campo Ma'an*. WWF and MINFOF, Service de Conservation du Parc National de Campo Ma'an. Unpublished Report.

- Nzoo Z. L., N’Goran K. P., Ekodeck H., et al. (2016a) *Les populations de grands et moyens mammifères dans le segment Lobéké du Paysage Tri-National de la Sangha*. Yaoundé, Cameroon : WWF and MINFOF. Unpublished Report.
- Nzoo Z.L., N’Goran K. P., Etoga G., et al. (2016b). *Les populations de grands et moyens mammifères dans le segment Cameroun du paysage TRIDOM (Forêt de Ngoyla Mintom, PN Boumba Bek, PN Nki et leurs zones périphériques)*. MINFOF and WWF. Unpublished report
- Oates, J. (2006). *Primate conservation in the forests of Western Ghana: recommendations for a conservation strategy*. Accra, Ghana: Wildlife Division, Forestry Commission. Unpublished report.
- O’Brien, T.G., Kinnaird, M.F., Nurcahyo, A., Prasetyaningrum, M. and Iqbal, M. (2003). Fire, demography and the persistence of siamang (*Symphalangus syndactylus*: Hylobatidae) in a Sumatran rainforest. *Animal Conservation*, **6**, 115–21.
- Ogunjemite, B.G. (2011). Chimpanzee (*Pan troglodytes*) populations in southwestern Nigeria. *Journal of Sustainable Development in Africa*, **13** 60–73.
- Ogunjemite, B.G., Afolayan, T.A., Agbelusi, E.A. and Onadeko, S.A. (2006). Status survey of chimpanzee in the forest zone of southwestern Nigeria. *Acta Zoologica Sinica*, **52**, 1009–14.
- Olaniyi, O.E., Ogunjemite, B.G. and Dansu, E.J. (2014). Relationship between anthropogenic activities and occurrence of the chimpanzees (*Pan troglodytes*) in Oluwa Forest Reserve, Nigeria. *Ethiopian Journal of Environmental Studies and Management*, **7**, 402–10.
- Pachau, S.V., Qureshi, Q., Habib, B. and Nijman, V. (2013). Habitat use and documentation of a historic decline of western hoolock gibbon (*Hoolock hoolock*) in Dampa Tiger Reserve, Mizoram, India. *Primate Conservation*, **27**, 85–90.
- Palombit, R.A. (1995). Longitudinal patterns of reproduction in wild siamang (*H. syndactylus*) and white-handed gibbons (*H. lar*). *International Journal of Primatology*, **16**, 739–60.
- Phoonjampa, R. and Brockelman, W.Y. (2008). Survey of pileated gibbon *Hylobates pileatus* in Thailand: populations threatened by hunting and habitat degradation. *Oryx*, **42**, 600–6.
- Phoonjampa, R., Koenig, K., Brockelman, W.Y., et al. (2011). Pileated gibbon density in relation to habitat characteristics and post-logging. *Biotropica*, **43**, 619–27.
- Piel, A.K., Cohen, N., Ndimuligo, S.A., Pintea, L. and Stewart, F.A. (2015). Population status of chimpanzees in the Masito-Ugalla Ecosystem, Tanzania. *American Journal of Primatology*, **77** (10), 1027–35. DOI: 10.1002/ajp.22438.
- Piel, A.K., Stewart, F.A., Pintea, L., et al. (2013). The Malagarasi River does not form an absolute barrier to chimpanzee movement in western Tanzania. *PLoS One*, **8**, e58965.
- Pintea, L., Latour, S., Hanni, D.C., et al. (2012). *Biological surveys and geospatial analysis to support great ape conservation in Dimonika Biosphere and Tchimpounga Natural Reserves, Republic of Congo (abstract)*. Presented at: XXIV Congress of the International Primatological Society (IPS), Cancún, Mexico.
- Plumptre, A.J., Cox, D. and Mugume, S. (2003). *The Status of Chimpanzees in Uganda*. Kampala, Uganda: WCS and JGI.
- Plumptre, A.J., Kujirakwinja, D. and Matunguru, J. (2008a). *Survey of Chimpanzees in the Virunga Park and an Assessment of a Potential Corridor to Mt Hoyo*. Albertine Rift Technical Reports Series. Kampala, Uganda: WCS and ICCN.
- Plumptre, A.J., Kujirakwinja, D., Matunguru, J., et al. (2008b). *Biodiversity Surveys in the Misotshi-Kabogo and Marungu Regions of Eastern Democratic Republic of Congo with a Focus on Chimpanzees*. Kampala, Uganda: WCS.
- Plumptre, A.J., Nixon, S., Critchlow, R., et al. (2015). *Status of Grauer’s gorilla and chimpanzees in eastern Democratic Republic of Congo: Historical and current distribution and abundance*. New York: WCS, FFI and ICCN. ISBN: 978-0-9792418-5-7 <http://www.albertinerift.org/about-us/publications.aspx> Unpublished report to Arcus Foundation, USAID and US Fish and Wildlife Service.
- Plumptre, A.J., Rose, R., Nangendo, G., et al. (2010). *Eastern Chimpanzee (Pan troglodytes schweinfurthii): Status Survey and Conservation Action Plan 2010–2020*. Gland, Switzerland: IUCN SSC Primate Specialist Group.
- Pruetz, J.D. and Bertolani, P. (2007). Savanna chimpanzees, *Pan troglodytes verus*, hunt with tools. *Current Biology*, **17**, 412–7.

- Pruetz, J.D., Marchant, L.F., Arno, J. and McGrew, W.C. (2002). Survey of savanna chimpanzees (*Pan troglodytes verus*) in southeastern Senegal. *American Journal of Primatology*, **58**, 35–43.
- Quinten, M., Stirling, F., Schwarze, S., Dinata, Y. and Hodges, K. (2014). Knowledge, attitudes and practices of local people on Siberut Island (west-Sumatra, Indonesia) towards primate hunting and conservation. *Journal of Threatened Taxa*, **6**, 6389–98.
- Rawson, B.M., Insua-Cao, P., Ha, N.M., et al. (2011). *The Conservation Status of Gibbons in Viet Nam*. Hanoi, Viet Nam: FFI and Conservation International.
- Reichard, U. and Sommer, V. (1997). Group encounters in wild gibbons (*H. lar*): agonism, affiliation and the concept of infanticide. *Behaviour*, **134**, 1135–74.
- Reinartz, G.E. and Guislain, P. (2010). *Assessment of bonobo distribution and development of bio-monitoring capacity in the MLW CARPE landscape, DR Congo*. Milwaukee, WI: Zoological Society of Milwaukee. Unpublished report.
- Reinartz, G.E., Guislain, P., Ngomo, M., Koko Wanza J., and Whitman, B. (2017) *Abundance and distribution of bonobos and forest elephants in the Watsi Kengo and Mondjoku Sectors of the Salonga National Park, DRC*. Zoological Society of Milwaukee (ZSM) internal report to USAID.
- Reinartz, G.E., Inogwabini, B.-I., Ngamankosi, M. and Wema Wema, L. (2006). Effects of forest type and human presence on bonobo (*Pan paniscus*) density in the Salonga National Park. *International Journal of Primatology*, **27**, 603–34.
- Roy, J., Vigilant, L., Gray, M., et al. (2014). Challenges in the use of genetic mark-recapture to estimate the population size of Bwindi mountain gorillas (*Gorilla beringei beringei*). *Biological Conservation*, **180**, 249–61.
- Samson, D.R. and Hunt, K.D. (2012). A thermodynamic comparison of arboreal and terrestrial sleeping sites for dry-habitat chimpanzees (*Pan troglodytes schweinfurthii*) at the Toro-Semliki Wildlife Reserve, Uganda. *American Journal of Primatology*, **74**, 811–8.
- Sanderson, J., Barrie, A., Coleman, J.E., et al. (2005). A rapid survey of mammals from the Haute Dodo and Cavally Forests, Côte d'Ivoire. In *A Rapid Biological Assessment of Two Classified Forests in South-Western Côte d'Ivoire*. RAP Bulletin of Biological Assessment 34, ed. L. E. Alonso, F. Lauginie and G. Rondeau. Washington DC: Conservation International. pp. 118–24.
- Sanz, C., Morgan, D., Strindberg, S. and Onononga, J.R. (2007). Distinguishing between the nests of sympatric chimpanzees and gorillas. *Journal of Applied Ecology*, **44**, 263–72.
- Serckx, A. (2014). *Eco-ethology of a population of bonobos (Pan paniscus) living in the western forest-savannah mosaics of the Democratic Republic of Congo*. In D'Épartement des Sciences et Gestion de l'Environnement. p. 297. Université de Liège. <http://hdl.handle.net/2268/166058>
- Setiawan, A., Nugroho, T.S., Wibisono, Y., Ikawati, V. and Sugardjito, J. (2012). Population density and distribution of Javan gibbon (*Hylobates moloch*) in Central Java, Indonesia. *Biodiversitas*, **13**, 23–32.
- Sousa, J., Vicente, L., Gippoliti, S., Casanova, C. and Sousa, C. (2014). Local knowledge and perceptions of chimpanzees in Cantanhez National Park, Guinea-Bissau. *American Journal of Primatology*, **76**, 122–34.
- Spira, C., Mitamba, G.M., Kirkby, A., Kalikunguba, T., Nishuli, R. and Plumptre, A.J. (2016). *Grauer's gorilla numbers increasing in Kahuzi-Biega National Park Highlands: 2015 census in Tshivanga sector*. New York: WCS and ICCN. Unpublished report.
- Spira, C., Mitamba, G.M., Kirkby, A., et al. (2017). *Inventaire de la Biodiversité dans le Parc National de Kahuzi-Biega, République Démocratique du Congo Secteur d'Itebero (basse altitude)*. New York: WCS and ICCN. Unpublished Report.
- Stokes, E.J., Strindberg, S., Bakabana, P.C., et al. (2010). Monitoring great ape and elephant abundance at large spatial scales: measuring effectiveness of a conservation landscape. *PLoS One*, **5**, e10294.
- Tenaza, R.R. and Hamilton III, W.J. (1971). Preliminary observations of the Mentawai Islands gibbon, *Hylobates klossii*. *Folia Primatologica*, **15**, 201–11.
- Thinh, V.N., Rawson, B.M., Hallam, C., et al. (2010). Phylogeny and distribution of crested gibbons (genus *Nomascus*) based on mitochondrial cytochrome b gene sequence data. *American Journal of Primatology*, **72**, 1047–54.
- Tié doué M. R. Diarrassouba A. and Tondossama A. (2016). *Etat de conservation du Parc National de Taï: Ré sultats du suivi é cologique - phase II*. Soubr é, Ivory Coast: l'office ivoirien des parcs et r é serves (OIPR)/Direction de

- Zone Sud-Ouest. pp. 31.
- Tilson, R.L. (1979). Behaviour of hoolock gibbon (*Hylobates hoolock*) during different seasons in Assam, India. *Journal of the Bombay Natural History Society*, **76**, 1–16.
- Tolisano, J., Vosper, A., Inkamba-Nkulu, C., et al. (2013). *Revised sensitivity analysis, Zanaga Mine: pre-feasibility phase*. Brazzaville, Congo: WCS. Unpublished report.
- Traeholt, C., Bonthoeun, R., Rawson, B., et al. (2005). *Status Review of Pileated Gibbon, Hylobates pileatus, and Yellow-Cheeked Crested Gibbon, Nomascus gabriellae, in Cambodia*. Phnom, Penh, Cambodia: FFI.
- Trịnh Đình Hoàng, Lê Văn Dũng and Nguyễn Văn Trường. (2016). Báo cáo Tổng điều tra liên khu Vườn Cao vút (*Nomascus nasutus*) tại Khu Bảo tồn loài và sinh cảnh Vườn Cao vút huyện Trùng Khánh, tỉnh Cao Bằng, Việt Nam và Khu bảo tồn Bằng Lương, Trùng Tây, Quảng Tây, Trung Quốc. Hanoi, Viet Nam: FFI.
- Tweh, C.G., Lormie, M.M., Kouakou, C.Y., et al. (2015). Conservation status of chimpanzees *Pan troglodytes verus* and other large mammals in Liberia: a nationwide survey. *Oryx*, **49** (4), 710–718. DOI: 10.1017/S0030605313001191.
- Tweh, C. (2017). Wildlife survey at the Sapo NP. Masters thesis in preparation. Unpublished.
- Utami-Atmoko, S. Traylor-Holzer, K. Rifqi, M.A., et al. (eds.) (2016) *Orangutan Population and Habitat Viability Assessment: Final Report*. Apple Valley, MN: IUCN/SSC Conservation Breeding Specialist Group.
- Vanleeuwe, H. (2014). *Ecological surveys 2005, 2008, 2010 and 2013 at Conkouati-Douli National Park, Republic of Congo. Projet d'Appui à la Gestion (PAG) du Parc National Conkouati-Douli (PNCD)*. Brazzaville, Congo: WCS. Unpublished report.
- Vosper, A., Masselink, J. and Maisels, F. (2013). *WCS RFO program: great ape and human impact monitoring in Okapi Faunal Reserve, Democratic Republic of Congo*. Kinshasa, DRC: WCS. Unpublished report.
- Warren, Y. and Bila, S.E. (2008). *Mbulu survey*. Limbe, Cameroon: WCS. Unpublished report.
- Warren, Y. and Ekinde, A. (2008). *Large mammal recce survey of the Mone Forest Reserve*. Limbe, Cameroon: WCS. Unpublished report.
- Warren, Y., Stott, A., Ekinde, A.E., Khumbah, P. and Nicholas, A. (2008). *Cross River gorilla inter-population nuclei distribution survey*. Limbe, Cameroon: WCS. Unpublished report.
- WCF (2009). *Rapport préliminaire sur le recensement des chimpanzés dans le Parc National de la Comoé, Côte d'Ivoire*. Abidjan, Ivory Coast: Wild Chimpanzee Foundation (WCF). Unpublished report.
- WCF (2012). *Etat de la faune et des mammifères dans les aires protégées terrestres et principales zones de forte biodiversité de République de Guinée*. Conakry, Guinea: WCF. Unpublished report.
- WCF (2014a). *Biomonitoring in the Guinea Alumina Corporation concession, Prefecture of Boke*. Conakry, Guinea: WCF. Unpublished report.
- WCF (2014b). *Study of a key area for the preservation of chimpanzee in West Africa: inventory along the Bafing River, Republic of Guinea*. Conakry, Guinea: WCF. Unpublished report.
- WCS (2015). *Survey of the Lokofa Block of the Salonga National Park Preliminary report*. Unpublished report
- Wich, S. A., Singleton, I., Nowak, M. G., et al. (2016). Land-cover changes predict steep declines for the Sumatran orangutan (*Pongo abelii*). *Science Advances*, **2**(3): e1500789.
- Williamson, E.A., Bayogo, R., Guimiyessi, G., et al. (2004). *Survey of elephants, Bangassou, Central African Republic: conservation status and human impacts May – June, 2004*. New York, NY: WCS/CITES – Monitoring the Illegal Killing of Elephants (MIKE). Unpublished report.
- WWF (2003). *Large mammals survey in the Mt Nlonako, Makombe and Ebo proposed protected areas*. Yaoundé, Cameroon: WWF. Unpublished report.