Central American Spider Monkey

Ateles geoffroyi Kuhl, 1820

Mexico, Guatemala, Nicaragua, Honduras, El Salvador, Costa Rica, Panama

(2016)

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Central American spider monkeys *Ateles geoffroyi* are distributed in Mexico, Guatemala, Nicaragua, Honduras, El Salvador, Costa Rica and Panama (Rylands *et al.* 2006). They are considered to be Critically Endangered because of habitat loss and fragmentation, and they are also heavily hunted for food and for the pet trade (Smith 2005). Kellogg and Goldman (1944) identified nine subspecies, but three have since been synonymized – *pan* Schlegel, 1876, and *yucatanensisis* Kellogg and Goldman, 1944 (synonyms of *vellerosus* Gray, 1866) and *panamensis* Kellogg and Goldman, 1944 (synonym of *ornatus* Gray, 1870) (Rylands *et al.* 2006). Recent taxonomic studies using mitochondrial DNA have validated other subspecies which are mentioned here, but more information on identification and sample locations is needed to corroborate these conclusions (Ruiz-García *et al.* 2016).

The genus *Ateles* has long been considered the most threatened in the Neotropics (Mittermeier *et al.* 1989). *Ateles geoffroyi* has a long gestation period (226–232 days) compared to other Atelinae, such as *Alouatta*, *Brachyteles* and *Lagothrix* (Campbell 2000). It also spends more time foraging, compared to other Central American primates (Chapman *et al.* 1989), with 69–91% of fruit being a major dietary requirement (Campbell 2000). Spider monkeys have large home ranges and are more vulnerable than *Alouatta* when adapting to fragmented conditions (Méndez-Carvajal 2013). In addition to its ecological requirements, it is one of the main game species in indigenous regions (Smith 2005). This species possesses one of the larger distributions compared to other non-human primates in the Mesoamerican region, but it is threatened by high deforestation (McGrath 2014).

***Ateles geoffroyi azuerensis* (CR)**

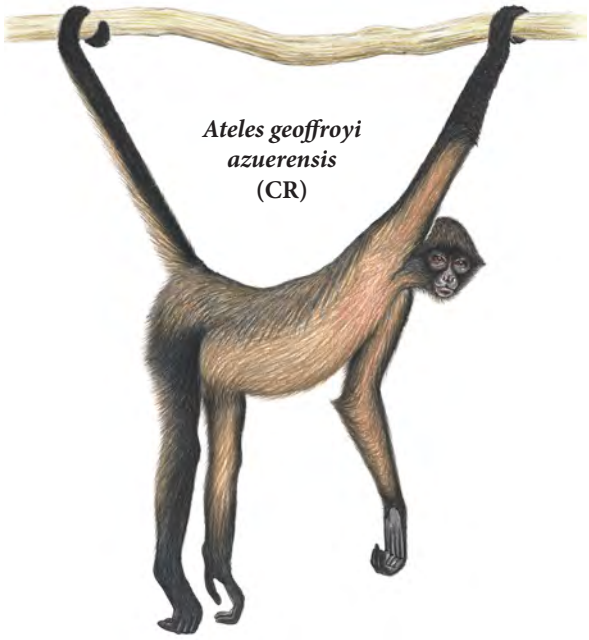
This subspecies was initially described as *Ateles azuerensis* Bole 1937, and was studied for the first time in its type locality (La Vaca, and Coto Region), Chiriqui Province, by Carpenter 1935. The actual distribution and total population have been assessed by the Fundación Pro-Conservación de los Primates Panameños (FCPP), a Panamanian NGO that has been monitoring this primate since 2001. *Ateles g. azuerensis* has been extirpated in Chiriqui Province, west, north Veraguas and Herrera Province, and only appears to be present in the south-western Veraguas, and Los Santos Province (only on the Azuero Peninsula), in the southern areas near the Cerro Hoya National Park, and in the fragmented landscape between Punta Duarte, La Barra, Guanico, Quema, La Tronosa Forest Reserve, La Miel, and Pedasi. Only 10 subgroups and five complete groups have been detected, with a mean of 3.8 individuals/subgroup, SE ±0.6 (range 2–7) and a mean of 12.5 individuals/group, SE ±3.7 (range 10–22), with densities of 1.4 individuals/km² (for fragmented habitats), and an approximate total population of <150 individuals (Méndez-Carvajal and Ruiz-Bernard 2009; Méndez-Carvajal 2013). Conservation measures led by FCPP involve community volunteers from Azuero, environmental education and the creation of an educational Azuero primates guide, as well as monitoring diversity and surveying the Azuero Peninsula (Méndez-Carvajal *et al.* 2013).

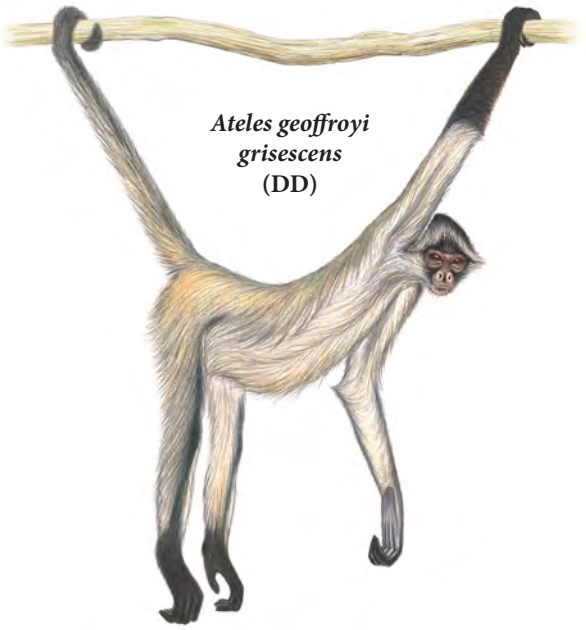
***Ateles geoffroyi frontatus* (EN)**

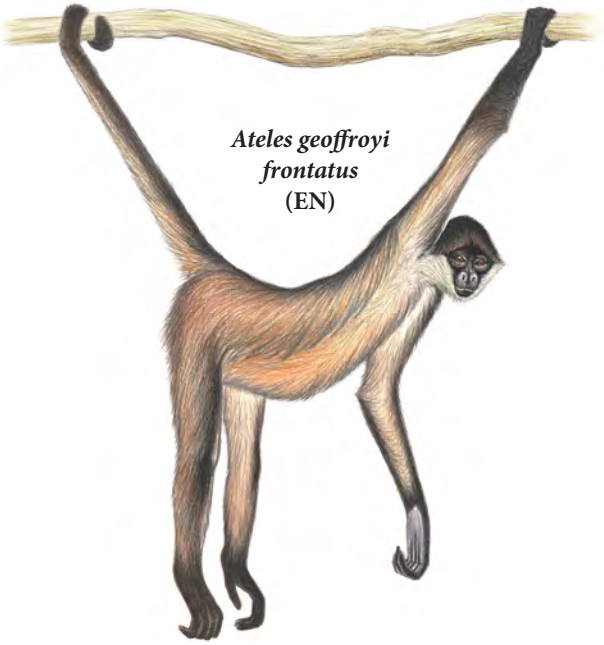
This primate was described by Kellogg and Goldman (1944), occurring in northern Nicaragua to the northwestern parts of Costa Rica, at Río Princapolca, Tuma and Uluce. It has also been recorded in Metagalpa and the Nicaraguan highlands (Allen 1914; Cuarón *et al.* 2008).

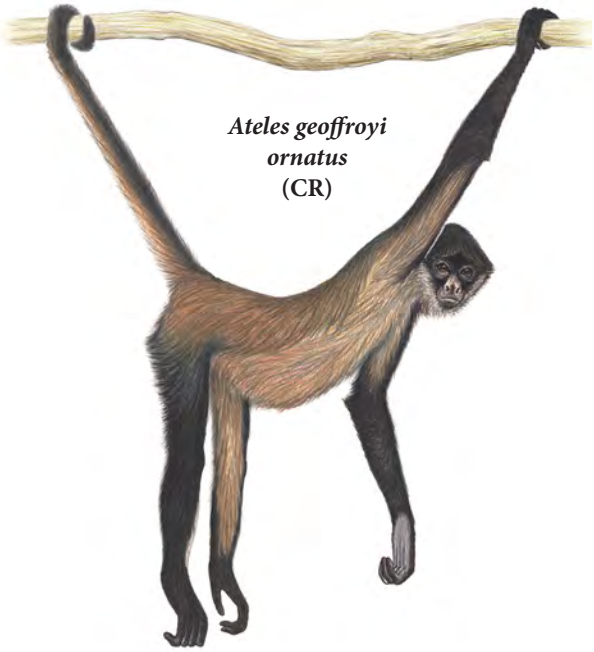
***Ateles geoffroyi geoffroyi* (CR)**

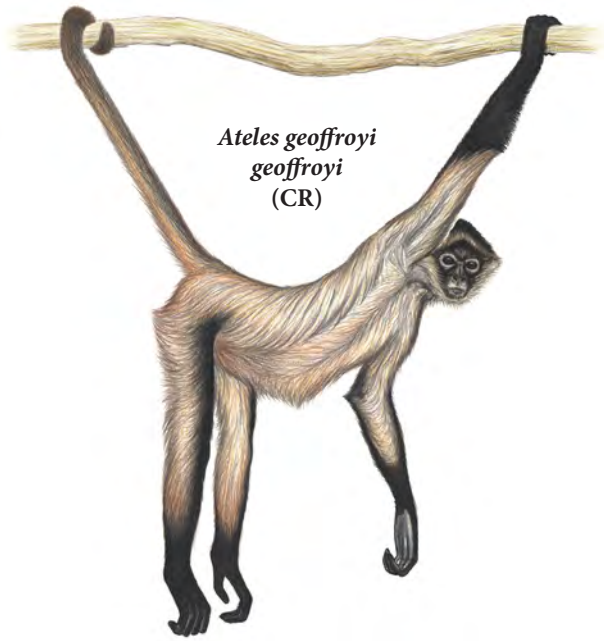
Kellogg and Goldman (1944) described this subspecies from San Juan del Norte, Martina Bay, southeastern Nicaragua, and it probably extends into northern Costa Rica (Cuarón *et al.* 2008).

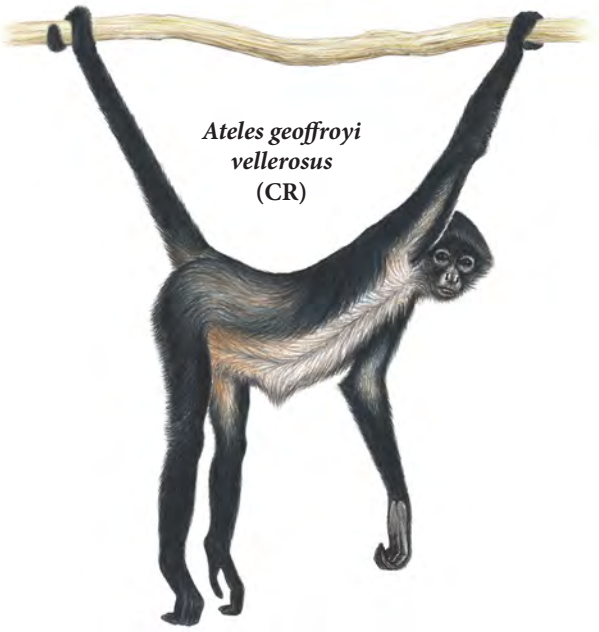












The subspecies of the Central American Spider Monkey (*Ateles geoffroyi*) (Illustrations: Stephen D. Nash)

***Ateles geoffroyi grisescens* (DD)**
Kellogg and Goldman (1944) reported this subspecies from the valley of the Río Tuira, Serrania del Sapo, Pirre, Tucuti in Darien Province, Panama (Elliot 1913; Gray 1865; Sclater 1875); it also occurs in Baudó, northwestern Colombia (Cuarón *et al.* 2008). Recent studies reported that *A. g. grisescens* can no longer be found in their original area (Tuira River), nor in Chucanti or the Maje Mountain Chain (Méndez-Carvajal 2012). However, the presence/absence of this primate from Panama is still in review (Méndez-Carvajal *et al.* 2016). A documentary related to the expedition to find *A. g. grisescens* has been filmed by Barbara Réthoré and Julien Chapuis from Conserv-action and NatExplorers, in support of FCPP projects and the re-discovery of this subspecies.

***Ateles geoffroyi ornatus* (CR)**
This subspecies was identified for the first time in Cerro Bruja, Colon Province of Panama as A*teles geoffroyi panamensis* by Goldman (1911, 1914). *Ateles g. panamensis* is still valid in Panama following Kellogg and Goldman (1944), Rylands *et al.* (1997) and Méndez-Carvajal *et al.* (2016). Its natural range is in Costa Rica and Panama. In Costa Rica, it is known to be in the Osa Peninsula, Carara Biological Reserve, Corcovado National Park (Matamoros and Seal 2001), and Cerro Chirripo, Cantón de Pérez Zeledón, at 1700 m asl, with a density of 0.012 individuals/km² (Rodríguez-Beitia pers. obs.). In Panama, it is present on the northern side of the Caribbean coast, in the low elevations and highlands of Bocas del Toro, the northern coast of Veraguas Province, Coclé (rare in Coclé and Donoso; Méndez-Carvajal, pers. obs.), Portobelo National Park, and San Blas mountain chain (Méndez-Carvajal *et al.* 2016). An isolated population has been introduced in Barro Colorado Island (Campbell 2000). In Panama, FCPP initiated a long-term monitoring project in 2010 in the San Blas mountain chain to understand better their actual distribution and population densities (Méndez-Carvajal 2014).

***Ateles geoffroyi vellerosus* (CR)**
This subspecies is present in Mexico, Belize, Guatemala, Honduras and El Salvador (Cuarón *et al.* 2008). The population density of *A. g. vellerosus* is between 2.9 individuals/km² and 9.3 individuals/km² at Montes Azules Biosphere Reserve in Marqués Comillas ejido, Chiapas, Mexico (Chaves *et al.* 2011). It also occurs in northern Veracruz, Oaxaca, Tamaulipas, Chiapas, Tabasco, Campeche, Quintana Roo and some other regions on the Yucatan Peninsula (Chaves *et al.* 2011). It occurs in densities of 2 individuals/km² to 12 individuals/km² (Pozo-Montuy *et al.* 2015). In Guatemala, it occurs in Petén, Alta Verapaz, Baja Verapaz, Izabal, Sololá, Huehuetenango and Quiché (Ponce-Santizo *et al.* 2009). It has been reported in El Salvador at Chaguantique and El Tercio (Usulután Department), and Montecristo, Normandía, Cerro el Mono y Conchagua (Rodríguez-Menjívar 2007). *Ateles g. vellerosus* is threatened by forest fires, the pet trade, habitat fragmentation due to farming activities such as oil palm, and road construction (McGrath 2014). Some conservation measures to protect this taxon include environmental education and building canopy bridges to facilitate canopy connection and reduce the number of animals killed on the roads. These activities have been implemented by the Mexican Primates Regional Monitoring System led by the project Conservación de la Biodiversidad del Usumacinta A.C. since 2013 (Pozo-Montuy *et al.* 2015). The Maya Biosphere Reserve (MBR) in the north of Guatemala, with 2.2 million ha, constitutes the largest and most important habitat for the subspecies (68.6% of its original forests). Conservation actions are maintained by several organizations to preserve this important forest block in Guatemala (Ponce-Santizo *et al.* 2009).

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