



Are humans special?

Understanding Primate Social Reward Systems

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Introduction

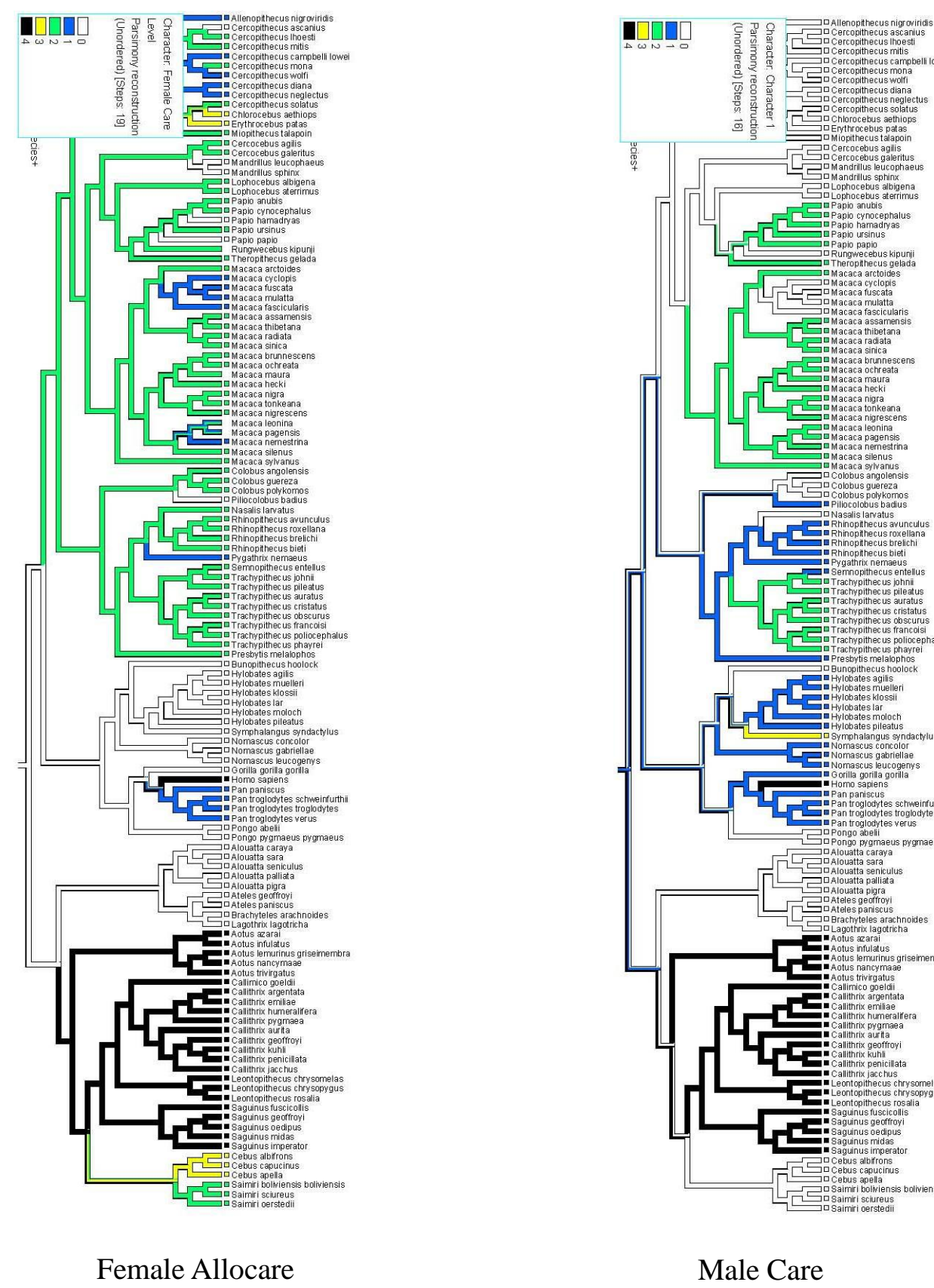
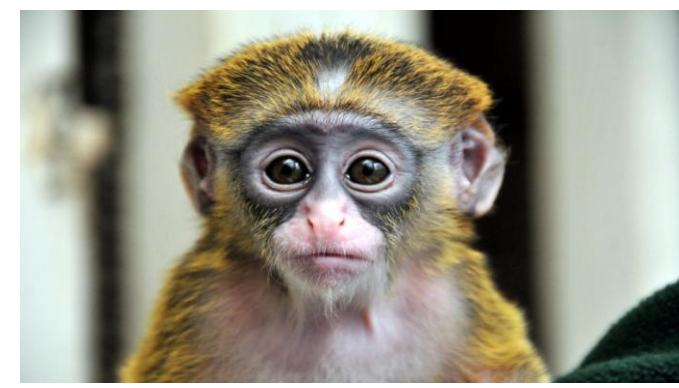
Although the term “attachment” has been used to refer to social bonds which motivate affiliation, there are four differentiable social reward systems mediating social proximity: the attachment, caregiving, dominance and sexual behavioral systems. This poster examines these systems in Anthropoid primates.

Methods

Data regarding the behavior of extant primates was compiled from the scientific literature and analyzed using Mesquite, a program that produces phylogenetic trees of behavioral traits.

The Caregiving System

The caregiving system functions to nurture the growth and development of others. It is the maternal care system, but this system is also variably present in males. Caring behavior may be directed toward infants, juveniles or other adults. In species where allocare is present infants possess a natal coat...



Female allocare is more common than male care in primates.

The Dominance System continued...

Just like the other social behavioral systems, the dominance system is sexually dimorphic in most primate species. Most primates are territorial and are aggressive toward others not in their group. Female guenons, colobines, and apes such as chimpanzees and gibbons can mortally wound other females, as can many cooperative breeders.

Males and females form same sex alliances especially when they do not disperse from their natal groups..

The Sexual System

The sexual system functions to ensure mating. It can also be a source of social bonding.

Sexual bonding occurs only in male primates and this bond does not imply exclusivity! A sexual bond motivates a male to stay close to females and young to protect and care for them. Sexual bonds are common and exist in all species where the male provides protection. Sexual bonds may cause males to be intolerant and aggressive toward other males.

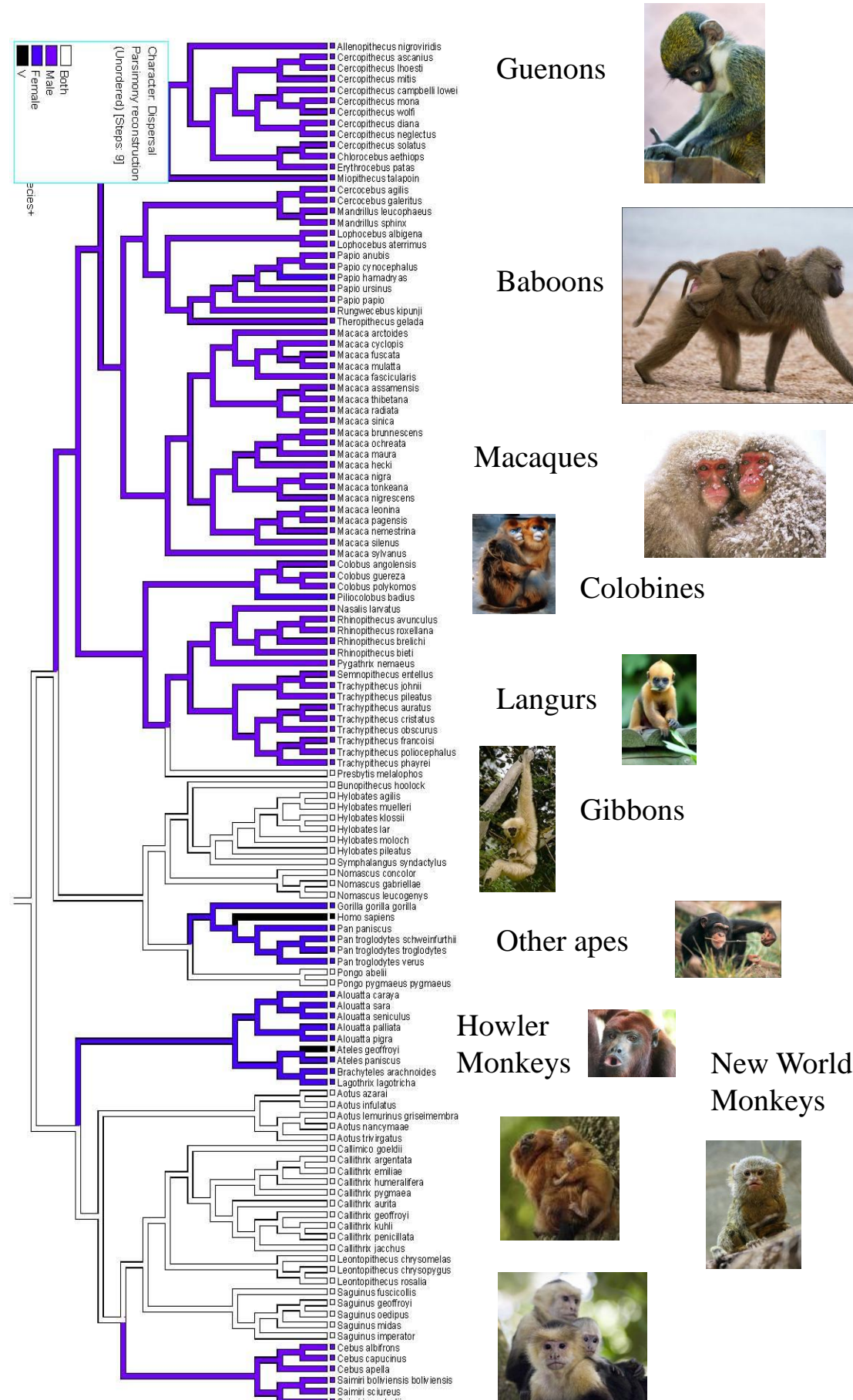
Female sexual bonds only occur in humans and perhaps siamang.

Siamang father with infant:



The Attachment System

The attachment system functions to ensure proximity to conspecifics during threat. Predation pressure is a major force guiding the evolution of primate attachment systems. The attachment system can be examined in relation to two species specific factors, group cohesion and proximity and natal dispersion. Natal dispersion refers to whether offspring lose their attachment to mother and leave the group. Males more commonly disperse (blue).



The Dominance System

The dominance system functions to exert control over rewards and punishments of both a social and non-social nature. The dominance system is responsible for both aggression and coalition formation. Male and female primates in various species exhibit varying degrees of dominance behavior. The caregiving and attachment systems function to inhibit the dominance system.

Are humans special?

Humans are very special. Adults of our species care for one another and for all young. Men also practice paternal care to an unusual degree. We are one of the only species where both males and females form sexual bonds and these bonds lead to a degree of exclusivity that is not found in other species. All other primate females mate promiscuously.

The fact that humans have such an extensive caregiving system is responsible for our long lifespans as grandparents care for grandchildren.