

and positions of different age-sex classes. Based on three months of behavioural data from one troop of wild, habituated olive baboons in Gashaka-Gumti National Park, Nigeria, we constructed three different social networks (grooming, affiliation and aggression). We then used knock-out simulations to assess how juveniles affected the apparent social positions of adult and sub-adult females. We found that juveniles contributed significantly to the social structure of the group. Excluding them from social networks had a particular effect on our understanding of the social role of sub-adult females. It emerged that sub-adult females act as brokers between juveniles and adults, and as such are important for social network cohesion. Their distinct social position became clear only when juveniles were included into the social networks, and was masked when they were excluded. The effects of incomplete networks on our understanding of primate social roles will be discussed. Our research fully complied with the European Directive 2010/63/EU and the International Primatological Society Guidelines for the Use of Nonhuman Primates in Research.

Explorative 3D Geometric Morphometrics on Cranial and Mandibles of Cercopithecini (1,024 Specimens)

Stefania Lo Bianco, Luca Sineo

Università degli Studi di Palermo, Palermo, Italy

E-Mail: stefania.lobianco01@unipa.it

A dataset of crania and mandibles from Old World primates was investigated through the use of 3D Geometric Morphometrics. We focused attention on the tribe Cercopithecini, sampling 1,024 specimens preserved in 9 different museums and relating to a total of 31 species. Another 102 specimens belonging to 10 species of the same family, Cercopithecidae, were added as outgroup. Our sampling was carried out using a 3D-digitizer Microscribe G2X and the data were processed through the softwares Morphologika and MorphoJ. We conducted both PCA and CVA analyses to investigate the power of resolution of the morphometric method and to understand the role of a-priori groups in the discrimination of the samples. Variables, such as sex, age and geographic localization, where present, were added to the analyses. Different sets of landmarks were selected with the aim of highlighting those characters with major variability. Even if every skull showed a peculiar morphology, we were not able to go beyond the genus level for genera with many species within it. We found that the a-priori specification is fundamental to obtain a clear clustering of genera. The 'sex' variable did not affect the reliability of the analyses, probably because factors we did not consider, like body and teeth size, have a strong impact on discrimination. With regard to the 'age' variable, 'infant' samples clustered separately from 'adult' ones, while 'juveniles' lay in the middle. Surprisingly, we found a slight split between West and East African species. Morphometric methodology can be helpful in the separation of species with deep morphometric differences or long evolutionary distances. Nevertheless, as in the tribe Cercopithecini, where most of the species show a recent history and similar lifestyle, it was not possible to discriminate up to the species level with this method. Thus, we consider it more useful to adopt a genus level approach to study the evolutionary history of the tribe.