

## The role of historical research in the study of primatological collections: case-studies from the Museo di Antropologia "G. Sergi", Rome

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**Summary** - A recently edited volume on the Italian primatological collections highlighted a rather difficult situation, often characterised by a preponderance of old and scarcely documented specimens. It is often ignored that a detailed historical research, through archival and bibliographic sources, can greatly improve the scientific value of collections providing critical taxonomic information. The primatological collection of the Museo di Antropologia "G. Sergi", La Sapienza University (Roma) is mainly composed of osteological material, with no original labels. During the first half of the 20<sup>th</sup> century and earlier, the collections in Roma were studied by many zoologists and anthropologists (like Antonio Carruccio, Gioacchino Sera, Giuseppe and Sergio Sergi, Ugo Vram). These old studies are now of fundamental importance in order to discover details about scarcely documented specimens. Thus, cataloguing and computerisation of vouchered collections data should always be associated with archival and bibliographical research.

**Keywords** - Italy, Museums, Primates, Taxonomy, Conservation biology.

### Introduction

In the last two decades, an increasing number of museums has begun to provide remote access to collections through internet in order to facilitate research and teaching (Cohn, 1995). Electronic cataloguing is, thus, essential. However, poor-quality museum records are of little use in biogeographic, taxonomic and conservation studies (Graham *et al.*, 2004). One recent analysis of some 20 museums, including most of the largest primate collections in Italy (Bruner & Gippoliti, 2006), revealed that, on average, the materials are very old and available information is particularly limited. The causes are multifarious; scarce interest in documenting specimens, utilisation of zoo specimens of unknown origin and, very often, the troubled history of individual collections which have often been transferred

from one place to another, assembled and then separated again, often with new labels replacing the old ones without any form of reference to the original numbers or to each skin/skull pairs. While several Italian museums assembled valuable collections in the XIX century and in the first decades of the XX century, their current value for research is greatly reduced due to losses and limited documentation. The current revolution in primate taxonomy at species level, that makes this order a perfect example of the so-called taxonomic inflation phenomenon (Isaac *et al.*, 2004), means that skulls alone may be rarely assigned to a species. In fact, they can only be assigned to a genus or species-group level. In the past, especially in comparative anthropological researches, a genus level classification was considered to be more than acceptable (Sera, 1918). Today, however, these specimens are of

little use in taxonomic and microevolutionary studies. Archival and bibliographical researches are essential (and sometimes overlooked) tools to improve the information baggage of historical specimens. Here we present some case studies from the Museo di Antropologia "G. Sergi" of La Sapienza University in Rome.

### The Museo di Antropologia "G. Sergi": a case study

Although the Museo di Antropologia "G. Sergi" is internationally better known for its collection of recent and fossil human skulls, it also preserves a small primate collection which is mostly composed of skulls and skeletons. The data concerning the origin and taxonomic composition of this collection are very scanty, although a genus level classification was published some years ago (Bruner & Manzi, 2001). An overview of the primatological research at La Sapienza University of Rome revealed a strong link existing between the Anthropological Museum and the old Zoological Museum of the University (Bruner & Gippoliti, 2006b). Further evidence of this can be seen in the few surviving original labels. Probably, when in 1932 the University loaned most of its zoological material to the Rome Municipality to create the Museo Civico di Zoologia, the remaining collections were donated to other

institutions and the osteological primate collection finished in the Anthropological Museum. This means that detailed data on the primate specimens of the Museo di Antropologia "G. Sergi" may be found in the published and unpublished notes by Antonio Carruccio, the director of the Zoological Museum, and by his collaborators between the years 1885-1925.

Carruccio (1899) discussed the skull and body of an adult female of *Hylobates muelleri* donated, together with other zoological material from Sarawak, by the King of Italy, Umberto I. The published photos made it possible to identify the skull of this specimen (n. 284/9; Fig. 1a). The mounted skin, on the other hand, is preserved in the Museo Civico di Zoologia. Carruccio provides no information regarding the origin of this Sarawak collection, other than the fact it dates back to 1897. He also described the skull of a juvenile *Aotus azarae* that died in Rome (Carruccio, 1896). This specimen, whose skull is numbered 234/22 (Fig. 1b), was donated by Tonini Del Furia, vice-director of the Zoological Museum of La Plata. It originated from the Paraguayan Chaco. For comparison, Carruccio extracted the skull from an old mounted specimen of *Aotus lemurinus*. Although we cannot be sure of the identification of this latter specimen (skull 284/23), it is interesting to note that it is one of the few specimens which definitely dates back to the Zoological Museum of the Pontifical Archigymnasium.

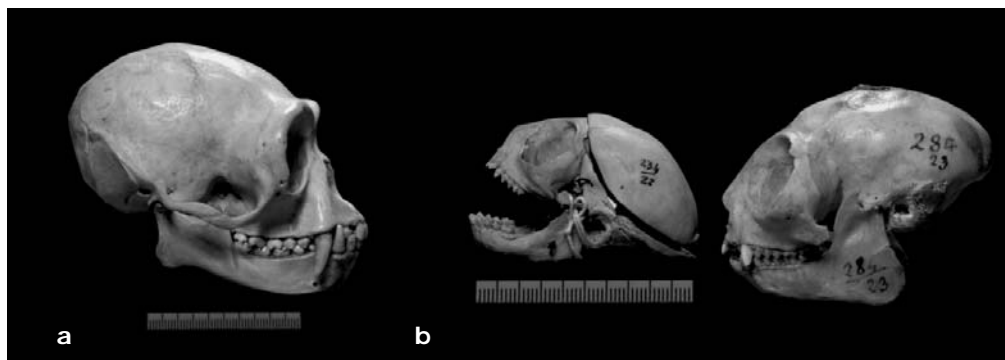


Fig. 1a - Skull of *Hylobates muelleri* (n. 284/9); 1b - Skull of *Aotus azarae* (234/22) (left) and *Aotus lemurinus* (284/23) (right).

Furthermore, research in the archives of the Dipartimento di Biologia Animale e dell'Uomo at La Sapienza University made it possible to unambiguously identify of a skull of a catarrhine monkey (n. 2038), which had remained unidentified. It is a young male *Lophocebus aterrimus* from Congo donated by a Dr. Zerbini. This specimen was described by Carruccio (1912) together with the entire skeleton of another specimen, which is no longer present in the collection.

The anthropologist Ugo Vram (1922) published the first ever description of the skeleton of *Theropithecus gelada*. This skeleton, which belonged to the Institute of Zoology, is certainly the one that can now be found in the Museo di Antropologia "G Sergi" (Fig. 2). As was all too often the case, Vram said nothing about the origin of this specimen. Probably, this was one of the males from the Rome Zoological Garden which was described by Gioacchino Sera (1923). This is probably the most important primatological specimen of the Museum from a historical point of view. Vram (1911) also described a male of *Cercopithecus diana* received from the newly

opened Rome Zoological Garden. The photo of the skull permitted an easy identification of the specimen (n. 4748, Fig. 3), although the original number has been changed. This identification seems to be further confirmed by the fact that the German taxonomist, Knottnerus-Meyer, was the director of the zoo at the time. Moreover, confirmation is also possible due to the presence of a mounted skin in the Museo Civico di Zoologia.

Another example is referred to Dr Eugenio Rudel, a Dutchman according to Giuseppe Sergi, who, in the first years of the XX Century, sent zoological and anthropological material from the then Dutch Indies to Rome. He sent brains of siamang *Symphalangus* from Sumatra which were studied by Giuseppe Sergi (1904). We have identified five skulls (n. 2643, 2692, 3153, 2490, 2684) of *Symphalangus* which were donated by Rudel, and which therefore belong to the Sumatran nominate subspecies.

The results of a morphometric study of the *Papio* skulls of the museum (Civitelli, 2007) were confirmed by available historical and bibliographic data. The longest skull (n. 284/12) was assigned to *Papio ursinus* and should be a



Fig. 2 - Skull of *Theropithecus gelada* (n. 283/2).

specimen collected by the famous Czech explorer of southern Africa Emil Holub. He donated this specimen to the Zoological Museum in 1894 (Carruccio, 1895). A number of smaller skulls of adult males (n. 3356, 3357, 3358, 3359) were part of a study by Vram (1910) concerning the growth of the skull of *Papio hamadryas*. This morphometric study confirms its taxonomic classification. Another skull of intermediate size (n. 2895) was interpreted as possibly being a *Papio anubis*, a fact confirmed by the geographic origin of the specimen, which was donated by a Mr. Moscione from the High Uellè region, Congo DRC.

These are some of the most outstanding examples of data recovered through archival and bibliographical research carried out in Rome. We suspect that similar results may be achieved for most of the old university collections in Italy. Considering the strong contacts existing between some Italian museums and foreign institutions in the XVIII and XIX Century (in fact, Italy as a united nation was only established in 1861 and

part of the territory prior to this date was under foreign rule), we cannot rule out the possibility that there is also primate typical material preserved in Italian institutions which has been overlooked.

In their catalogue of the primate collection of the Museum of Natural History of the University of Pisa, Lunardini & Palagi (2000), for instance, cite the presence of a skull (n. 1216) originally labelled as *Lemur cinereus*. This name is not cited by Groves (2001), who considered *Eulemur cinereiceps* (Grandidier & Milne-Edwards, 1890) to be a possible valid species, only known from two mounted female skins in the Paris Museum. The Pisa Museum maintained close contacts with the Paris Museum when it was directed by Paolo Savi (1798 - 1871), so the origin of the Pisa skull should deserve to be better investigated.

It must be said that the reliability of former taxonomic assessors should be always taken into account. In fact, incorrect identification may arise through the use of old taxonomies, but old names have often been reevaluated in recent years. It is, thus, always essential to maintain the original names and numbers of the labels in order to preserve important information.

A final remark is opportune regarding the potential of historical information in the field of education. Specimens whose origin can be linked to particular researchers, explorers, historical periods, etc. can be more fully exploited from an educational point of view. This is particularly true for educational activities concerned with biodiversity and environmental conservation (Gippoliti, 2005).

### Museums and zoological gardens

Zoological gardens have always represented an important source of primatological specimens for many Italian museums. Regrettably, the documentation of these specimens is often scarce or non-existent, and this is particularly bad when only osteological material have been preserved. To highlight this issue, we will present the case of the Museo di Antropologia of the Florence University and of the Museo Civico di Storia

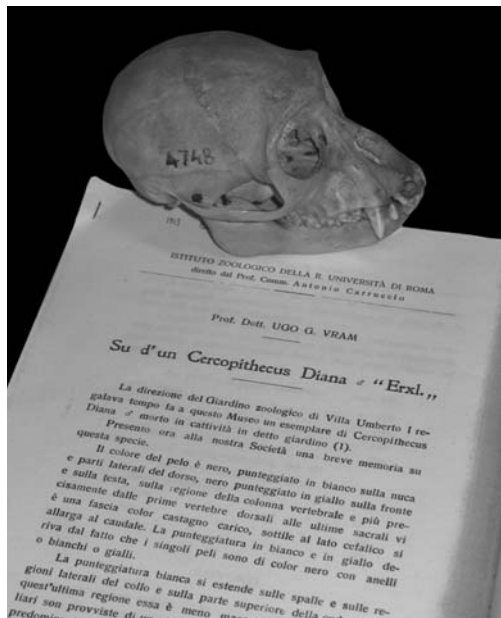


Fig. 3. - Skull of *Cercopithecus diana* (4748) studied by Ugo Vram.

Naturale in Milan. Both these museums acquired specimens from the zoos of Turin and Milan in the post-war years, but while the first one was only interested in and preserved only osteological material, the Milan Museum preserved both skins and bones (with a preference for the first ones). During an ongoing research on *Theropithecus gelada* taxonomy (Gippoliti, in prep.), a photo of a male gelada skin from the Museo di Storia Naturale in Milan was received which has all the characteristic colours of the subspecies *obscurus*, a little-known taxon represented by very few museum specimens. This provisional classification will also be tested, for instance, through mtDNA extracted from the skin and interesting data may also emerge from a study of the associated skull. Naturally, the skull alone of a captive gelada specimen of unknown origin would reveal nothing regarding its taxonomic affinities.

The scientific potential of zoo specimens has been discussed by Gippoliti (2006) and by Gippoliti and Kitchener (2007). They highlighted how much of this potential was and is still lost due to a lack of cooperation between zoos and museums. An example was the recent discovery of a Nigerian chimpanzee *Pan troglodytes vellerosus* in Italy (the third of this subspecies found in captivity 'out of Africa') through an *ad hoc* post-mortem genetic analysis (Gippoliti, 2007). Regrettably, no part of the body of this particular individual was preserved in a museum, thus making any further morphological analysis of this little-known taxon impossible.

### Acknowledgements

*We are grateful to the administrative staff of the Dipartimento di Biologia Animale e dell'Uomo at La Sapienza University for allowing us access to the archives. G. Manzi kindly made the collections at the Museo di Antropologia "G. Sergi" available. We would also like to thank Claudia Civitelli for her assistance during the re-evaluation of this primatological collection and Prof. Carlo Violani for reviewing the text. This work was partially supported by the Istituto Italiano di Antropologia ([www.isita-org.com](http://www.isita-org.com)).*

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Editor, Giovanni Destro-Bisol