

VITA: ORIGINE & EVOLUZIONE

COLLANA DI MONOGRAFIE BIOLOGICHE  
SEZIONE DIVULGATIVA

2

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Negli ultimi decenni la Biologia ha compiuto, a seguito della scoperta della struttura e della funzione genetica del DNA, un decisivo balzo in avanti, che può ben richiamare quel movimento innovatore che si produsse nelle scienze fisiche dopo la scoperta, agli inizi dello scorso secolo, dei quanti di energia.

La moderna teoria del gene che rapidamente si è composta come un corpo di dottrina a sé, ha permesso di chiarire numerosi meccanismi molecolari che sono alla base di fondamentali processi biologici.

L'analisi dei fatti fondamentali che caratterizzano il fenomeno della vita non si esaurisce, però, nella sola indagine intorno allo studio dei meccanismi molecolari che discendono dall'attività dei geni. La prodigiosa diversità delle forme viventi, peculiare carattere del fenomeno vita, ha indotto a cogliere di volta in volta, ai vari livelli dell'organizzazione nella *gerarchia* dei sistemi biologici, fatti essenziali di portata generale comuni a tutto ciò che vive.

Questa Collana di monografie biologiche offre saggi sui temi dominanti della biologia generale, cellulare e molecolare, nonché della genetica nelle sue varie articolazioni comprendente l'ingegneria genetica e le biotecnologie. Arricchiscono la collana in oggetto particolari monografie che illustrano il dibattito scientifico e l'evoluzione delle tecnologie che hanno consentito nel tempo il progresso delle scienze biologiche. Tematiche di fondamentale importanza, uniche nella editoria italiana, che consentono al lettore di rendersi meglio conto di come sia stato possibile pervenire agli attuali livelli di conoscenze in ambito biologico.

Il Consiglio scientifico, del quale hanno accettato di far parte illustri Studiosi di varie Istituzioni accademiche nazionali e internazionali, e la procedura predisposta per la valutazione dei contributi costituiscono una garanzia di qualità e di rigore scientifico.



# History of Primatology Yesterday and Today

The Western–Mediterranean Tradition

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*to Colin Groves and Ludovico Galleni  
inexhaustible sources of inspiration*





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## Prologue

CECILIA VERACINI, FRANCESCO SCALFARI, CATARINA CASANOVA\*

The idea of writing a book which brings together various contributions about history of primatology was born after the Symposium “History of Primatology Yesterday and Today: Tradition and Science” that we and other colleagues organized at the XXIVth Congress of the International Primatological Society in Cancun, from 12<sup>th</sup> to 18<sup>th</sup> August, 2012. The late Professor Colin Groves (1942–2017) also participated at that symposium, making an important contribution about the relevance of history in the classification and taxonomy of non-human primates (primates hereafter) but also in conservation and other primatological fields. Later on, we decided the book should focus especially on the contributions made to the natural history of primates by the scholars and authors of the Mediterranean area. In fact, although in the Western tradition the role of Southern European countries is recognized in many disciplines of natural sciences, the contributions made to primatology in the past have often been ignored or underestimated. The book contains articles that illustrate various aspects of the development and progress of this discipline, starting from the ancient Greek world, through the Renaissance and European expansion in Italy and Portugal, to the rise of Darwinism in the nineteenth century and finally the work of Italian, French, Spanish and Portuguese scholars of the 20<sup>th</sup> and 21<sup>th</sup> centuries, concluding with an original contribution regarding the role of images in primate taxonomy and conservation. The unifying idea of this book is to compare cultural traditions and different approaches, aiming for a better comprehen-

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sion of how primates have been perceived and classified throughout the centuries. Primatology has its roots in the very distant past. Marco Masseti, gives a comprehensive description of function, perception and classification of primates in the Greek world. The number of primate taxa known and introduced in Europe in antiquity basically did not change until the Renaissance, and only with the European expansion of the 15<sup>th</sup> century did new taxa enter Europe and the scientific world. This period of novelty and scientific fervour is illustrated by the studies of the great naturalist Ulisse Aldrovandi, reported here by Cecilia Veracini, and by the first descriptions of great apes coming from West Africa, as explained by Catarina Casanova. In 1699, with Tyson's famous work, the close morphological links between chimpanzees and humans were disclosed, and this helped pre-evolutionary scientists to realise that by studying primates we would understand ourselves. Most primatological traditions and schools of thought grew up together within this anthropological framework. Sineo and Veracini give an account of the rise of primatology as an independent discipline, developed in Italy mostly after the publication of *The Descent of Man* (Darwin, 1871). Italian scientists were among the first in Europe to be aware of the anthropological implications of the Darwinian revolution. The Italian evolutionary tradition was intensely active for about the first three decades of the 20<sup>th</sup> century in strict association with the growing Darwinian interest in evolution, and after World War II the growth of this interest reached exponential proportions. Other schools in Southern Europe at that time made a great contribution to primatology, as shown by the Portuguese anthropologist António Mendes Corrêa, whose work and activities are described by Catarina Casanova. Ludovico Galleni and his co-authors illustrate the work of the French Jesuit Pierre Teilhard de Chardin, who, in addition to dealing with human evolution, left an important legacy as regards primates. The modern Spanish tradition in Primatology began in the second half of the 20<sup>th</sup> century with Jordi Sabater Pi, and today is carried out by a healthily flourishing group of scientists. As illustrated by Ubach and Cabrera, many of them are women, who have dedicated their lives to primate conservation, working and studying in sanctuaries and rescues centres around the world. The book ends with an extremely original paper written by Stephen Nash, a widely-known scientific illustrator who gives the "faces" to hundreds

of primates worldwide. What is attempted here is a brief overview of the use of imagery in human history, particularly the depiction of our fellow-members of the Primate Order, for the purposes of scientific description, and, more recently, for campaigns which use primates as focal or “flagship” species. Also examined are the changes which happened, over time, in the style in which primates have been portrayed. As highlighted by Colin Groves, the history of primatology is a subject still hardly acknowledged even among primatologists, although for taxonomists, biogeographers, ecologists and conservationists it is a fundamental tool for understanding and correctly interpreting the present. For this last, and for the other reasons illustrated above, we believe that this volume will make a relevant contribution to the knowledge of primates.

### **Aknowledgements**

We really thanks all the contributors for their participation in this project and for the promptness with which they responded to the editors’ suggestions. While the book was in preparation we lost two authors, Colin Groves and Ludovico Galleni, to whom we dedicate this book; we hope to have been able to respect their ideas in editing their works. We would also thank all the authors for the many and beautiful pictures they included in their contributions. Many thanks to Hilary Morris for the English revision of some chapters of the book.



## Introductory Remarks Human Beasts

COLIN GROVES\*

It is curious how the importance of the history of primatology is still poorly acknowledged, and how many primatologists are still rather ignorant of the history of their subject.

For taxonomists, finding type specimens is vital; this in turn involves searching the older literature, and sometimes unpublished documents, and even investigating the context — who voyaged where, and when; where a particular specimen is most likely to have been picked up; and what were the voyager's relationships with the describer. For biogeographers, ecologists and conservationists, reading the older literature, particularly the accounts of the earliest explorers like Margrave or Humboldt, can be vital in finding out whether a species' range has contracted or its habitat tolerance at one time was wider; for one interested in animal behaviour or comparative psychology, what our forebears understood about a species' cognitive capabilities and behavioural idiosyncrasies may not only be eye opening but may even suggest new avenues of research. For those concerned with animal welfare and the attitude of human animals towards nonhuman ones, a great deal can be gathered from reading how Buffon, or Darwin, or Wallace treated them.

In short: those ignorant of history are doomed to repeat it! Understanding the history of primatology helps us to avoid re-inventing the wheel.

Finally, of course, there is an intrinsic interest in trying to understand how civilisations grew and changed over time. We want to trace how our own civilisation's knowledge and understanding of nonhu-

\* Colin Groves † was Professor of Biological Anthropology at the Australian National University in Canberra, Australia.

man primates affected its citizens' understanding of their own place in the natural world. Early on, subsequent to the Roman era at any rate, all that Europeans knew of nonhuman primates was the Barbary macaque (*Macaca sylvanus*), known at that time as "the ape", and even as long-tailed monkeys began to turn up in Western Europe as a result of (mainly) Portuguese and Dutch voyages it was this tailless "ape" that was uppermost in European consciousness as either the work of the devil as a way to mock the human form or else as a dreadful warning from God to man. But it was only when the occasional orangutan or chimpanzee reached Europe, alive or dead, that the imagination really began to run wild. For the most part, until the mid-18<sup>th</sup> century, orangutans and chimpanzees were inextricably confused both with each other and with human Pygmies, whose existence was still just a rumour to Europeans, and it is ironic that the person who probably did most to disentangle the separate identities of chimpanzees and orangutans, J.F. Blumenbach (1775), regarded them as a threat to his human vanity.

In this short introduction, I will look briefly at a few of our early (meaning pre-Darwinian) predecessors who seem to have managed to keep their cool when faced with anthropoid apes. Some, like Tyson and Linnaeus, were acknowledged as path breakers, others, like Gray and Lesson, were often regarded as mavericks.

If one figure stands out as marking a turning point in the understanding of anthropoid apes, it is surely Edward Tyson. His *Orang-outang, sive Homo sylvestris: or, the anatomy of a pygmie compared with that of a monkey, an ape, and a man* (1699) can probably be looked upon as the starting point of primatology. A first-rate anatomist, he dissected the cadaver of an infant chimpanzee who had died en route to Britain from Angola. Calling it, unfortunately, a Pygmy, he listed its anatomical characters in relation to those of "apes" (Barbary macaques) and other monkeys as follows: 48 of its anatomical characters were like humans, and 34 were more like "apes" and monkeys. He concluded, "our Pygmie is no man, nor yet the Common Ape; but a sort of animal between both". The skeleton of the infant chimpanzee which he dissected is still in the Natural History Museum (formerly British Museum [Natural History]), London, and at the time of writing is on public display.

Carl Linnaeus, the founder of modern taxonomy and its binomial system of nomenclature, did one extraordinary thing in his *Systema*



*Naturae*, whose 10<sup>th</sup> edition is the foundation for zoological nomenclature: he placed the genus *Homo* in the mammalian order Primates, along with monkeys (genus *Simia*), lemurs and lorises (genus *Lemur*) and, unexpectedly, bats (genus *Vespertilio*). But in the *Systema Naturae* he did not make a good fist of the great apes, mixing them up inextricably. As if to compensate, he wrote a treatise on great apes for his student Hoppe. In those days, the academic system in Sweden was somewhat odd: instead of the student doing research and writing a thesis, the professor wrote the dissertation and the student had to learn it. The author of the treatise is therefore Linnaeus, not Hoppius as was commonly cited in the early 20<sup>th</sup> century. Linnaeus described and illustrated (see Groves, 2008:97, and Nash this volume see Figure 3) four “anthropomorph” species, all of which he referred to his genus *Simia*, as follows:

- a) *Simia troglodyta* Bontii. The name in italics is a Linnean binomial, and it is followed by the name of the person from whom, in the opinion of Linnaeus, the prime source material comes, in this case the Dutch physician Jakob de Bondt (“Bontius”), who around 1630 may or may not have described female orangutan and in whose posthumous publication was inserted an illustration of what is probably an unfortunate hairy woman! Linnaeus gave an appallingly bad reproduction of this illustration. The name *troglodyta* may, therefore, be a synonym of *Homo sapiens* — at any rate, at this distance in time, it is simply indeterminable;
- b) *Simia lucifer* Aldrovandi. Bernard Heuvelmans (1981) managed to trace the evolution of this odd picture back to Breydenbach in his 1486 *Travel to the Holy Land*, where, rendered slightly (only slightly) more realistically, it seems to depict a hamadryas baboon holding a camel on a leash;
- c) *Simia satyrus* Tulp. This is illustrated by a poor version of a figure of a chimpanzee by Scotin (1738), but “Tulp” refers to a figure by the Dutch anatomist Tulp (1641) of what may be a chimpanzee, or a bonobo, or an orang-utan.
- d) *Simia pygmaeus* Edwardi. The illustration, which is not as bad as the other three, is taken from Edwards’ *Gleanings of Natural History* (1758). There is absolutely no doubt about what primate is depicted: it is a juvenile orangutan. The name *pygmaeus*,

based as it is on a real, identifiable species, is available in nomenclature. Linnaeus, not fully aware that the orangutan was so young, thought that it was probably the long-lost “pygmy”. This explains why the second-largest living nonhuman primate bears such a ridiculously inappropriate specific name.

The successors of Linnaeus, over nearly 100 years, refused to contemplate his order Primates, including as it did the human species. Instead, almost without exception they split Primates into two separate orders: Quadrumana for apes, monkeys, lemurs, and Bimana for “man” alone. . . . With two exceptions. The first was John Edward Gray, who was lured from a medical degree to a post in what at that time was the natural history section of the British Museum; here he stayed until his death in 1873, quite soon rising to the position of Keeper of Zoology. In a notable taxonomic exercise (1825), he revived the Order Primates, classifying humans, apes and monkeys together in it as follows:

- Family 1. Hominidae:
  - + Tail none:
    - a) Hominina. *Homo*;
    - b) Simiina. *Troglodytes* Geoff., *Simia* Lin, *Hylobates* Illiger.
  - ++ Tail long or short:
    - a) Old World monkeys
- Family 2. Sariguidae  
(New World monkeys)

Despite, or perhaps because of, the exalted position which Gray came to attain, he never returned to this classification; though he made several classifications of nonhuman primates, humans were never among them — nor was the name Primates mentioned again.

The second was René-Primevère Lesson (1840). He seems to have been regarded as something of an outsider in French zoology; though he published prolifically, mainly small taxonomic catalogues (in which he invented a lot of new names, very often substituting his own names for well-accepted ones); he was not often referred to, and it is perhaps unsurprising in this light that his striking innovation, as far as

concerned humans and apes, was ignored. For he recognised both the order Primates and the order Quadrumana, with a most unexpected content:

I<sup>er</sup> Order. Les Primates, L.

1<sup>er</sup> Famille: Hommidées, Hommideae

1<sup>er</sup> Genre: Homme, *Homo*. L.

2<sup>e</sup> Famille: Les Anthropomorphées, Anthropomorphae

2<sup>e</sup> Genre: Chimpanzé, *Troglodytes*, E. Geoff St-Hil.;

3<sup>e</sup> Genre: Orang, *Satyurus*, *Pithecus*, Cuv.

II<sup>e</sup> Order. Les Quadrumanes, Quadrumana. Cuv. (including monkeys — and *Hylobates*)

It is unfortunate that Lesson's precise reasons for separating humans and great apes from monkeys and lesser apes are lost amid a mass of verbiage; it seems to consist largely in upright posture and in the consequent freedom and use of the hands.

But the vast majority of zoologists of the early 19<sup>th</sup> century were doggedly devoted to the Bimana / Quadrumana division. Indeed, Richard Owen (1857) even placed "man" in a separate subclass of mammals, Archencephala. Gray and Lesson were, apparently, the only two exceptions until finally T.H. Huxley (1863) demoted "man" from an exalted position (although still in a special family), and definitively reinstated the Linnaean order Primates, with the following seven families:

- Anthropini, "contains Man alone";
- Catarrhini ("old world apes");
- Platyrrhini ("all new world apes, except the marmosets");
- Arctopithecini (marmosets);
- Lemurini (lemurs);
- Cheiromyini (aye-aye);
- Galeopithecini ("flying lemur").

It took the champion of taxonomy to talk sense about the position of the human species in the natural world, and it took the champion of Darwinism to restore the human species to that position.

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