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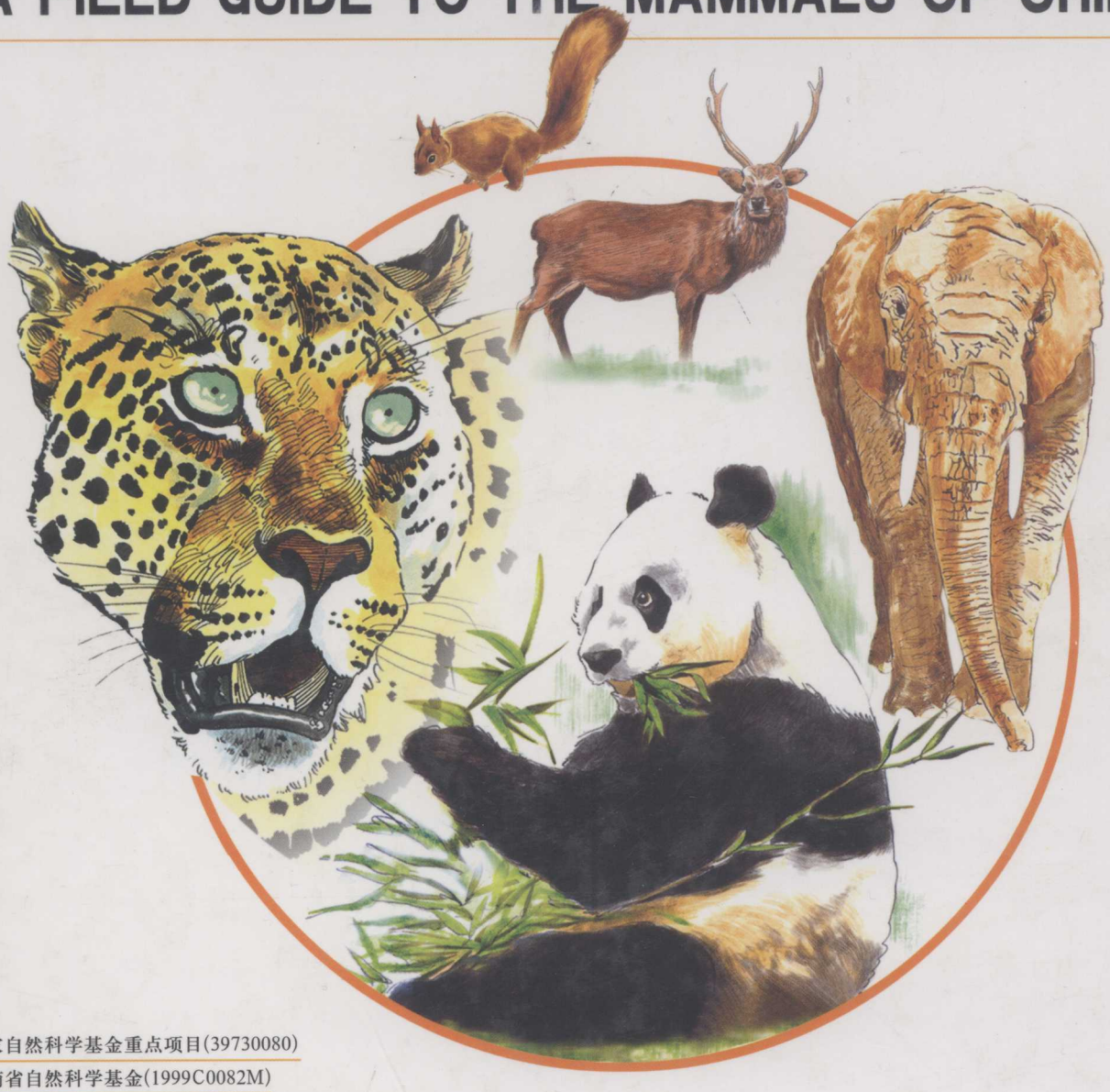
中国哺乳动物彩色图鉴

A FIELD GUIDE TO THE MAMMALS OF CHINA



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内容简介

《中国哺乳动物彩色图鉴》是识别中国哺乳动物的一部科学著作。图鉴共列出中国645种哺乳动物中的346种(主要为大、中型保护哺乳类动物，其中包括特有种、珍稀濒危种及其科、属的代表种)。每种哺乳动物除依照实物绘制彩色外形图外，尚对每一物种的中文名称、别名、拉丁文学名、英文名、分类地位、形态特征、分类注释、地理分布、栖息环境、生态习性、资源现状和保护等级等做了扼要介绍，同时附有头骨图和分布图。

书中将近期修订的我国全部哺乳动物(645种)列为附录－Ⅰ，列出所有种的中文名、拉丁文学名、地理分布及特有分布；将中国重点保护哺乳动物(155种)的名录及保护等级列为附录－Ⅱ。通过这些，可使读者全面了解我国哺乳动物的多样性和丰富度。全书采用了科学的描述、直观的图形，通俗易懂，可供科研、教学、野生动物保护、农、林、牧、副、渔、环境保护、卫生防疫、公安、海关、工商、供销、外贸、动物检疫和旅游等部门以及野生动物爱好者参考。

《中国哺乳动物彩色图鉴》编辑委员会

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序

中国疆域辽阔，地跨寒温带、温带、暖温带、亚热带和北热带等气候带，具有高山、高原、峡谷、盆地、平原、海滩和海域等各种地貌，还有森林、草原、荒漠、农耕地、湿地与水域等自然环境。多种多样的生态系统及景观类型孕育了复杂、多样的哺乳动物。动物区系复杂，兼有古北、东洋两大动物地理界的特点，久为世人所瞩目。

哺乳动物是动物界最高等的一个纲，也是生命系统中最重要的一员，因与人类的生活十分密切，早期的人类曾以它们为主要食物和衣着来源，时至今日，农、林、牧、医、商，环卫、科研等诸业也与它们的存在息息相关。随着人类活动的加剧，环境遭受严重破坏，使它们的栖息环境日趋缩小，数量锐减，不少大中型哺乳动物濒临绝灭。这既给它们带来灾难，也给人类生活带来不幸。保护和合理利用野生动物资源，维护生态平衡，已成为人类生存和发展的重要任务。

王应祥等经40余年的研究，用国际上最新的分类系统和观点，在2003年整理发表了中国的13目55科235属607种哺乳动物，约占世界兽类种总数的13.11%。现在又增加到645种，其种数居世界各国之首。

《中国哺乳动物彩色图鉴》由多年从事哺乳动物研究的王应祥教授等撰写，并由中国科学院动物研究所已逾半个世纪从事动物科学绘画的岩崑教授为主，绘制动物彩色形态图。书中选择中国哺乳动物的科、属代表和国家重点保护的大中型哺乳动物进行描述，详尽地记述了346个种的形态特征，地理分布，头骨和牙齿特征，生态习性和资源保护现状，并以附录形式列出了中国645种哺乳动物的名录、分布、特有种的标示及重点保护种的名录，为读者了解中国哺乳动物多样性及保护利用提供了平台。图鉴内容和观点新颖，图文并茂，雅俗共赏，集科学性、严谨性、生动性和可读性为一体，为我们推出了一部识别我国哺乳动物的专著。

潘清华教授曾是中国科学院昆明动物研究所所长，从事动物学研究半个多世纪；王应祥教授是我国著名的哺乳动物分类学家，年逾花甲；岩崑教授是我国一流的哺乳动物科学绘画专家，已年逾古稀。几位专家从青年到老年，倾注了他们的毕生心血，以老骥伏枥、锲而不舍的精神完成此巨著，令我钦佩之余，谨以数语以为序。

胡锦矗

2006年5月

PREFACE

China has a vast territory that covers the cold temperate, temperate, warm temperate, semitropical and north tropic climate zones, with various landforms of alpine areas. plateaus. deep valleys. basins. plains. sea beaches. and marine territories. Premium natural habitats include forests. grassland. deserts. agriculture land. wetland. and aquatic areas with abundant animal and plant resources. The diversified ecosystems and landscapes. which harbor many species of mammals that fall into both the Palearctic and Oriental Realms. have been noted by the world for long term.

Being the highest class of the animal kingdom. mammals have formed an important part of the life system. Their close interactions with humans are dated back to early times,at that time humans relied on them for livelihood. Up to now, they are still related to agriculture,forestry,husbandry,medicine,business, environment, and other fields in branches. Along with the intensified human activities and the deteriorated environments day by day,the habitats of mammals are increasingly reduced and their populations decimated, many of them have been pushed to the brink of extinction that specially brought us disasters. So the most important task for us is to develop and make rational and sustainable use of wildlife resources, and maintain ecological balance that will decide if the humans can be continuously survive and develop in future.

After more than 40 years' accumulative research work,Prof. Wang Yingxiang (2003) has adopted new system in classification on mammals and have categorized Chinese mammals into 13 orders, 55 families, 235 genera and 607 species, which account for 13.11% of the world mammals. In this Guidebook, increased to 645 species again. The diversity of Mammals ranks the first in the world.

Prof. Wang Yingxiang of Kunming Institute of Zoology, the Chinese Academy of Sciences, a veteran in mammal taxonomist with his colleagues was put responsible for writing the book A Field Guide to the Mammals of China. The book was complemented by the original-color pictures, which are the works of Prof. Yan Kun, who had spent over half a century in animal drawing.

All of Chinese medium and large-sized mammals representative of the major genera under Mammalia which are preserved both in China and overseas have been included in the book. Detailed descriptions of 346 color plates show the mammals' physical attributes, distribution, and skulls of the mammles. In order to provide an overview of the diversity of China's mammals, the book also lists in the appendix 648 species, with their distribution and degree of indigenousness marked. The contents and views provided in the book are fresh, rich in both text and pictures, incorporates scientific accuracy with high readability. It is to be enjoyed by both scholars and the general public and serves as an important monograph for mammal identification. The book may also be used as a reference by departments such as agriculture, forestry, husbandry, medicine, business and economics, distribution, foreign trade, scientific research. Education, customs quarantine, transportation, and tourism.

Prof. Pan Qinghua, the former Director of Kunming Institute of Zoology, the Chinese Acedamy of Sciences, dedicated himsef to zoological research for a half century;Prof. Wang Yingxiang who is over 60 years old is a famous mammal taxonomist expert and Prof. Yan Kun who is close to a centenarian is the first class scientific drawing artist of mammals in China. The three experts contributed their lifetime to complete this tome, an effort to be admired and remembered in my few introductory lines.

Prof. *Hu Jinchu*

May, 2006

前言

野生动物是生物多样性和生物资源的重要组成部分。保护好野生动物对维护自然生态平衡、发展经济、丰富人民的物质文化生活、促进国际交流和各国人民之间的友谊具有重要意义。

哺乳动物是野生动物中与人类关系最密切的类群之一，这不仅由于人类自身就是这一类群中的成员，还在于与人类生活最密切的家畜和经济动物(猪、马、驴、骡、牛、羊、猫、狗、兔等)、医学实验动物(大白鼠、小白鼠、实验猕猴、豚鼠)等都来自野生哺乳动物。同时，野生哺乳动物可为进一步培育和复壮新的经济动物提供新的基因来源，为控制虫鼠害提供天敌，为仿生学和现代医学提供动物模型和原始材料。它不仅为人类生存提供不可缺少的自然资源，而且也构成了人类生存的自然环境，因而保护野生动物也是保护人类自己。

随着人类人口的急剧增长和自然环境的恶化，全球生物多样性急剧减少，许多哺乳动物趋于濒危或绝灭，对物种的保护日趋紧迫。中国是世界上生物多样性最丰富的国家之一，哺乳类是其中最重要的类群。中国的哺乳类约有 645 种，其种数居世界各国之首。许多特有的濒危物种如大熊猫、金丝猴、白鼹豚、野马、野骆驼等颇受国内外关注。但迄今为止尚无一部较系统地介绍中国现生哺乳动物主要概貌、图文并茂的参考书，这给中国哺乳动物的研究、教学、利用和保护带来许多困难。

1989 年，《中国重点保护野生动物名录》公布实施后，更是需要一部介绍中国重点保护野生哺乳动物和中国哺乳动物概貌、图文并茂的参考书。由于云南是中国哺乳动物最丰富、中国重点保护野生动物最多的省分，1990 年我们开始筹划《云南哺乳动物彩色图鉴》的编写，同时邀请中国科学院动物研究所资深哺乳动物科学画家岩崑教授主笔彩绘哺乳动物形态图，1996年完成初稿。当年秋季，恰逢台湾东海大学张万福教授访问北京，我们与张教授见面，在会见中议论到《云南哺乳动物彩色图鉴》的问题，张教授认为：为使图鉴具有更高的科学价值和更广泛的使用价值，建议把《云南哺乳动物彩色图鉴》扩展为《中国哺乳动物彩色图鉴》。大家取得共识，并商定由海峡两岸学者合作编写《中国哺乳动物彩色图鉴》，商定由王应祥提出“彩色图鉴”的编写种类名录、撰写绪论、整理中国哺乳动物物种名录和分布并主持大陆动物种类的文稿编写及图稿的审定；张万福负责联系台湾哺乳动物的编写事宜；岩崑为全书形态图的彩绘主笔，昆明动物研究所阳平康协助绘图。

本图鉴将包含国内外学者一个多世纪以来在中国所录得的哺乳动物，并对其进行图文并茂的记述和描绘。考虑到多数小型哺乳动物种类繁多，一些种的标本尚保存于国外，部分动物的标

本和彩色照片很不易找到，特别是一些属种的外形和体色比较相似，所以，图鉴拟选大中型哺乳类(特别是珍稀、保护种)、特有种、主要经济种、重大的人与动物共患病的疫源动物或宿主动物以及哺乳动物科、属的代表种等共346种，进行一种一图的彩绘和记述，主要介绍各动物种的中文名、拉丁学名、别名、英文名、主要特征、量衡度、地理分布及分布图、生态习性、资源现状、保护等级等，另有部分种的分类注释。头骨是哺乳动物分类的主要根据，为使物种的特征明晰，本图鉴绝大多数种都配有用近代数码成像技术摄制的3侧面(背面，腹面和侧面)头骨、牙齿特征图，便于读者参考使用。

我在2003年出版的《中国哺乳动物种和亚种分类名录与分类大全》中，把两个多世纪以来国内外学者在中国所录得的所有哺乳类及其分布加以系统整理和修订，共录得中国哺乳动物13目55科235属607种。近年来，这些类群的分类和分布又有新的发展，发现了一些新种，属、种新记录和属、种新资料。例如：Mouchaty 等(2000)和 Asher 等(2002)根据分子生物学和形态学分析认为：原食虫目(INSECTIVORA)中的猬类比其他哺乳动物很早就从真兽亚纲中分出，主张单独独立成目，即猬目(ERINACEOMORPHA)，剩下的鼩鼱类(Soriccidae)和鼹类(Talpidae)有较近的关系，又另立一目，即鼩鼱目(SORICOMORPHA)。此观点被 Hutterer (2005)接受(见 Wilson and Reeder:Mammal Species of the World, 3rd, 2005, pp.212–311)。但Murphy et al.(2001)以15个核基因和3个mtDNA基因构树，对真兽亚纲各目的系统关系做了调整，其中原食虫目中的马岛猬(*Echinops*,Tenrecidae)、金鼹(*Amblysomus*, Chrysochloridae)与管齿目(TUBULIDENTATA)的土豚(*Orycteropus*)成为姐妹群，位于真兽亚纲最原始的非洲兽超目(AFROTHERIA)中，现已命名成非洲鼩目(AFROSORICIDA)；而原食虫目的猬类(Erinaceus)、鼩鼱(*Sorex*)和鼹类(*Asioscalops* and *Condylura*)又形成一个类群与鲸—偶蹄类(CET–ARTIODACTYL，包括鲸目CETACEA和偶蹄目ARTIODACTYLA)、奇蹄目(PERSSODACTYLA)、食肉目(CARNIVORA)、鳞甲目(PHOLODOTA)和翼手目(CHIROPTERA)共同构成另一个超目(劳亚兽超目LAURASIATHERIA)。Murphy et al.(2001)与 Mouchaty et al.(2000)的不同点是：猬类和鼩鼱类先形成一支，再与鼹类形成姐妹群，才与其他各目成为姐妹群。他们同意 Waddell et al.(1999)的观点：以EULIPOTYPHLA取代INSECTIVORA作为后者(猬、鼩鼱和鼹类)所组成的新食虫类的目名(近期学者多采纳这一观点)。又如，灵长目中长臂猿科的属种由单一的长臂猿属

*Hylobates*变成为4属，即*Nomascus*、*Hylobates*、*Symdactylus*、*Bunopithrcus*(Brandon-Jones et al. 2004)。Mootnick & Groves(2005)还认为：*Bunopithrcus*是以四川万县盐井沟的一颗已绝灭的长臂猿化石建立的属，它与现生白眉长臂猿不同，不能用现生白眉长臂猿的属名，他们重新命名了*Hoolock*，替代*Bunopithrcus*作为白眉长臂猿的新属名。近几年在我国还发现了一些新种和属、种的新记录，如：无尾果蝠*Megaerops ecaudatus*、泰国无尾果蝠*Megaerops niphanae*、马氏菊头蝠*Rhinolophus marshallii*、小褐菊头蝠*Rhinolophus stheno*、小巨足蝠*Myotis hasseltii*、爪哇穿山甲*Manis javanica*等，许多亚种已被提升为种，如中华菊头蝠*Rhinolophus sinicus*、海南长臂猿*Nomascus hainana*、中国豪猪*Hystrix hodgsoni*、宁夏鼠兔*Ochotona argendata*、高丽兔*Lepus coreanus*、蒙古兔*Lepus tolai*等。需要说明的是，《中国物种红色名录·第一卷·红色名录》(汪松、解焱主编)已于2004年8月出版。其中的中国哺乳动物记录为14目50科237属580种。该名录系根据当时尚未出版的《Mammals Species of the World, 3rd. ed.》(Wilson & Reeder. Eds.)书稿核定(该书于2005年10月正式出版)，与1993年出版的《Mammals Species of the World, 2nd ed.》(Wilson & Reeder)比较，2005年的第三版，其目、科、属、种的名称及其分类有许多变动，种类从1993年(第二版)的4629种增至5416种，其中新种仅为260种，其余的787种都是经过分类修订从原来的种或亚种提升为种的。我们根据近年来的工作和新的资料，对《中国哺乳动物种和亚种分类名录与分类大全》进行了补充和修订，截至2006年5月为止，我国哺乳动物总数为13目56科242属645种。为使读者对中国哺乳动物的全貌及近期的研究进展有所了解，借本图鉴出版之际，把增补和修订后的中国哺乳动物种及其分布以附录－Ⅰ列于书中。

中国的重点保护野生动物名录自1989年公布实施，至今已近20年，原用的学名、内含种类(当时标注为某分类阶元的所有种)和保护等级已有许多变化。若仍使用原来的名称和分类，则与现今国内外哺乳动物的分类和保护现状不符。另外，当时我国还未加入“濒危野生动植物种国际贸易公约(CITES)”，自20世纪90年代加入CITES后，根据国家林业局和最高人民法院的司法解释：非产于我国的CITES附录Ⅰ和附录Ⅱ物种亦按我国国家Ⅰ级或Ⅱ级重点保护野生动物进行管理。而CITES附录Ⅰ和附录Ⅱ物种现在的学名和保护等级与1989年公布的我国国家重点保护野生动物名称和保护等级出入较大，需加以增补和注释。为此，本书把1989年公布的《中国重点保护

野生动物名录》中的哺乳类名录及其保护等级按国内外最新资料进行物种名称修订，增补原名录中标注为某分类阶元“所有种”的全部种类和CITES附录中分布于中国的哺乳类(共计155种)及保护等级，列为附录－Ⅱ，可供野生动物保护、管理、执法部门对照参考。

哺乳动物外形图的彩绘主要根据标本或动物照片绘制。因参与绘图的人水平和风格不一，彩图画好后由岩崑教授统一修改和增补背景。参照的标本和头骨主要选自中国科学院昆明动物研究所和中国科学院动物研究所标本库，部分标本和头骨承四川西华师范大学生命科学学院等惠借。图、文完成后由王应祥统稿和审定，最后约请国立台湾大学动物学系李玲玲教授对台湾动物种类进行复审、四川西华师范大学生命科学学院胡锦矗教授对大陆动物种类进行审阅。

在图鉴编绘中，承胡锦矗、冯祚建、汪松、李玲玲等教授及方引平博士惠赠图书和图片资料；周开亚教授和王丕烈教授惠赠他们编著的中国海兽专著并允许引用他们专著中的彩色照片和墨线图；惠赠头骨照片的还有马建章、马逸清、吴家炎、邹红菲、王宗祎、刘迺发、江海声、阿布力米提·阿布都卡笛尔、杨光荣、龚正达等教授，不列颠博物馆哺乳动物分馆 Dr. Louise Tomsett，俄罗斯人与生物圈国家委员会秘书长 Dr. Valeri Neronov，俄罗斯科学院动物研究所 Dr. Alexei Abramov，印度 Gauhati 大学 Dr. Anwaruddin Choudhury，美国史密森研究院国家自然历史博物馆 Mr. Dave Schmidt 以及俞发宏、张渝疆、初红军、李维东、朱世兵、夏经世等博士。孙青女士和刘思慧博士协助将序、前言、绪论译成英文；罗静博士对序和前言的英译文进行复核；王利进行文稿的电脑输入和分布图的描图。在图鉴编撰后期，得到中国国家自然科学基金重点项目(39730080)和中国科学院知识创新工程：中国科学院昆明动物研究所系统动物与区系地理学学科团组的经费支持；国家科学技术学术著作出版基金委员会、中国野生动物保护协会、云南省林业厅和云南野生动物保护协会给予出版经费的全力支持；中国野生动物保护协会秘书长陈润生先生对本图鉴提出了许多宝贵建议；中国林业出版社将本图鉴列为重点图书选题，严丽编审对图鉴的编辑和校对做了大量工作；最后，中国科学院昆明动物研究所所长张亚平院士、杨君兴教授和中国科学院动物研究所张知彬所长、乔格侠教授对本图鉴的编撰和出版给予关心和帮助，在此一并致谢。

王应祥

2006年5月于昆明

FOREWORD

Wildlife is one of the most important components of natural biodiversity and bioresource. To conserve wildlife plays great a role in maintaining the balance of ecosystems, developing economics, enriching the material and cultural aspects of human life£¬promoting the international cooperation and friendships.

Mammals are the closest and the most relative groups to human among wildlife. It is not only because human himself is a member of mammals, but also that many economical animals (such as pig, horse, domestic ass, mule, cattle, sheep and goat, cat, dog, and rabbit, etc.) and medical experimental animals (such as rat, laboratory mice, macaque, guines pig) are domesticated from mammals. Meanwhile, wild mammals are potential resources to provide new genes for further cultivation and rejuvenation of economical animals, and they also provide natural predators for controlling damages of insects and mice. In addition, some mammals are used as animal models and primitive materials for bionics and modern medicine. Mammals are not only provided indispensably natural resources for human but also it is constituted natural environment for human, thus, to protect mammals is to protect human¡ s interests.

Along with the rapid increase of human population size, and deterioration of natural environment, the global biodiversity is has been greatly decreased. Many mammals are confronted to be severely endangered or even get extinct. It is becoming more and more urgent to protect species. China is among the few countries of the richest of biodiversity in the world and the mammals are the most important components of biodiversity. At present, there are 645 nominated species in China, where is the most richest region for mammals. Some mammalian species, such as Giant panda (*Ailuropoda melanopoda*), Snub-nosed monkeys (*Rhinopithecus* spp.), Yangtze dolphin (*Lipotes vexillifer*), Wild horse (*Equus przewalskii*), Wild camel (*Camelus ferus*), etc., are of great concerns of the world for their status and conservation. However, there has been no guidebook to introduce Chinese mammals systematically and comprehensively so far; and this absence resulted in many problems for research, teaching, conservation and utilization of Chinese mammals.

In 1989, **The List of Key Wildlife of China for Protection** was published, and protection of wildlife has been put into effect since then; Thus, a practical book which would introduce the main wild animals of China for protection with images and illustrations of the Chinese mammals has been in need urgently. We started the idea to compile a book of *A Field Guide to the Mammals of Yunnan* in 1990, since Yunnan is one of the provinces famous for the richest resource of Chinese mammals with the widest distribution of key wildlife for protection in China. Meanwhile, Prof. Yan (Yan Kun) was invited to draw mammals of Yunan for the book, who is experienced and specialized in scientific drawing of mammals from the Chinese Academy of Sciences. We have finished the first draft in 1996; In autumn of this year, Prof. Zhang Wanfu of Tunghai University of Taiwan visited Beijing. We met Prof. Zhang and discussed the book. Prof. Zhang suggested that the book could be extended as *A Field Guide to the Mammals of China* for the purpose of realizing its scientific value and expending its utilization. We agreed with his suggestion and decided that the guide would be collaborative work both from mainland and Taiwan; I was responsible for the general

design, the species collection, introduction, rearrangement of the name list of China mammals' species and its distribution to be one appendix to the book, and also I was in change of the compiling and revising the scripts for the species in the main land; Prof. Zhang would be in charge of organization of compiling for the species in Taiwan; Prof. Yan would be the main painter for the color illustration cooperated with Ms.Yang Pingkang of the Kunming Institute of Zoology, Chinese Academy of Sciences.

The Guidebook is to demonstrate the nominated species in China that has benn recorded more than one century. However, since most of the small- sized mammals are of various kinds of species and some specimens are even preserved outside of China, the specimens and color pictures are not available easily; besides, species in some genera,are alike with each other from appearance. Thus, we have chosen 346 species that include the large and the medium-sized mammals, especially those endangered and protected mammals, and also main economic animals, the prevention and control species in sanitation and anti-epidemic activities; representatives of the most families and genera as well. For each species, we supply a color drawing of its appearance, a Chinese name, a scientific name, common name (s), English name(s), morphological characters, size, distribution (with distributive map). a taxonomic notes for part of the species, habitats, present resources and conservation category; Besides, skull is the main characters for mammalian classification. In order to make mammalian characteristics clear, we have provided each species with 3-profile images (Dorsal, lateral, and vental views) of its adult crania and dentaries, it will be convenient reference for the taxonomists .

In the book, *A Complete Checklist of Mammal Species and Subspecies in China, A Taxonomic and Geographic Reference* (Wang, 2003), I have made collections and revisions systematically for all species and subspecies and its distribution of Chinese mammals which were recorded by both domestic and oversea scientists during the past two centuries. Totally, there were 607 recorded species which is abominated into 235 genera, 55 families and 13 orders in China. In the past a few years, classification and distribution of these species have been modified. Some new species/genera, new distribution of the genera and species have been reported. For examples, Mouchaty et al.(2000) and Asher et al.(2002) indicated that Insectivora was a multiple origin group with molecular data; Mouchaty et al.(2000) suggested that Erinaceidae had been divergent very early from Eutheria, this group should be as an independent order as Erinaceomorpha; the rest two groups, Soriccidae and Talpidae are closely related and should be considered as Soricomorpha. Murphy et al.(2001) used 15 nuclear genes and 3 mitochondrial genes to clarify the main taxa of the Eutheria, and their results did not support the result of Mouchaty et al (2000). *Echinops* in Tenrecidae and *Amblysomus* in Chrysochloridae of the order Insectivora were sister groups and closed to the African AFROTHERIA, which is the most primitive lineage of Eutheria; and the core lineages of Insectivara including *Erinaceus, Sorex, Asioscalops and Condylura* were formed as sister group and were among the same super order as Cetartiodactyla (=Cetacea and Artiodactyla), Perssodactyla, Carnivora, Pholodota and Chiroptera. Different from Mouchaty et al (2000), Murphy et al (2001) showed that *Erinaceus* and *Sorex* were the most related and then closed to *Asioscalops and*

Condylura; these four lineages formed a clade(LAURASIA). They also adapted Waddell et al (1999) to use EULIPOTYPHLA instead INSECTIVORA as this Order name, followed the most recent idea of the researchers; In PRIMATES, the former genus *Hylobates* now is splitted into four independent genera: *Nomascus*、*Hylobates*、*Symdactylus* and *Bunopithrcus* (Brandon-Jones et *al*. 2004). However, Mootnick & Groves (2005) considered that *Bunopithrcus* was one fossil genus, thay gave *Hoolock* as a new genus name; In addition, there were several new species and genera recorded: *Megaerops* as new recored of genus and *Megaerops niphanae, M. ecaudatus, Rhinolophus marshallii, Rhinolophus stheno, Myotis hasseltii* and *Manis javanica* as new distribution in China; Several subspeciecs, *Rhinolophus sinicus, Nomascus hainana, Hystrix hodgsoni, Ochotona argendata, Lepus coreanus and Lepus tolai* etc as new recored species; It is necessary to be noted that all the species in the book, *China Species Red List. Vol. I Red List* (Wang Song & Xie Yan eds.) published in 2004 were checked and ratified on the basis of *Mammals Species of the World* 3rd ed. (Wilson & Reeder, eds.) when it isn't published. Totally 580 species that is subordinated to 237 genera, 50 families and 14 orders have been reported in China. The books are published in 2005. In the books, many modifications have been made to species, genus, family and order. Many subspecies have been promoted to be species, the mammalian species of the world from 4629 (Wilson & Reeder eds, 1993) increased to 5416 (Wilson & Reeder eds, 2005), among it, 260 species are new species, while 787species are rised as species from discrebuted species and subspecies on the basis review of morphologic, karyotype and molecular. So that, it is necessary to view and complementarity for Chinese mammals on the basis of new data; Thus, the taxonomy and distribution lists modified in our guidebook are still on the basis of taxonomic system by Wang (2003). Chinese mammals have been up to 56 families, 242 genera, 645 species (by the end of December, 2005). These species and their distribution will be listed as Appendix I of the Guidebook.

It has been seventeen years **since The List of Key Wildlife of China for Protection** was published and put into effect in 1989, The original scientific name, genus name, species have been modified dramatically including some groups (such as those marked as "all the species of a certain taxon" such as genus, family or order) and its protection grade have been ajusted a lot; besides, they have been quite different from those in the modern classification of China or overseas from those of CITES and IUCN as well. As the result, we need further annotation modifications in accordance. In addition, China is a member of CITES, and non-domestic species listed CITES appendix I and II are managed as Chinese protection grade I and II according to the National Council of forestry and the supercourt of China. Thus, the modifications to the former scientific name and protect grade of the species listed in **The List of Key Wildlife of China for Protection** (1989) were conducted based on the latest progress of China and overseas. We have also supplemented appendix II (153 species) in the guidebook for reference of comparing, in which listed in detail of all species and their protection grade for those were originally marked as "all species in a certain taxon" and for mammals listed in CITES.

All color pictures were painted based on specimens or photos of the mammals. Because of many

painters having participated with different style of painting, all the paintings were uniformed and revised by Prof. Yan. Most specimens and skulls are from kept of Kunming Institute of Zoology and Institute of Zoology, the Chinese Academy of Science, and Biology Department of Xihua Normal University which kindly lent us part of the specimens. Myself examined and revised all manuscripts and paintings. Prof. Lee Lingling of Zoology Department of National Taiwan University agreed kindly to do revisions for the species of Taiwan and Prof. Hu Jinchu for the transcontinental species.

My sincere gratitudes to Profs. Hu Jinchu, Feng Zuojian, Wang Song, Lee Lingling and Dr. Fang Yinping for their kind help for providing references, books and photographs; Great thanks to Profs. Zhou Kaiya and Wang Peilie for presenting their monograph and photos of skull of aquatic mammals of China, also thanks for their permission to quote the photos and pictures of feature of aquatic mammals in our book; Thanks for Profs. Ma Jianzhang, Ma Yiqing, Wu Jiayan, Zou Hongfei, Wang Zongyi, Liu Naifa, Jiang Haisheng, Ablimit¡¤Abdukdir, Yang Guangrong, Gong Zhengda, Dr. Luise Tomsett (British Museum Natural History) and Dr. Valeri Neronov (Secretary General of MAB National Committee of Russia), Dr.Alexei Abrarnov (Laboratory of Mammalogy,Zoological Institute Russian Academy of Sciences),Dr. Anwaruddin Choudhury(Gauhati University,India),Mr.Dave Schmidt(The Division,National Museum of Natural History,Smithsonian Institution,USA), and Drs. Yu Fahong, Zhang Yujiang, Chu Hongjun, Li Weidong, Zhu Shibing, Xia Jingshi for presenting the photos of mammal skulls; thanks Dr. Liu Sihui and Mrs. Sun Qing for translation of the preface, foreward and introduction; Mrs. Wang Li for helping data input and index In the later period of the book writing. The project had been also supported financially by National Science Foundation of China (39730080), Yunan Science Foundation (1999C0082M) and A major Project of Knowledge Innovation Program of the Chinese Academy of Sciences: text of Systematic Zoology and Fauna-Geography; The project had been supported by China Wildlife Conservation Association (CWCA) and the secretary-general, Chen Runsheng of CWCA, gave lots of good advice on the book and did lots of work for collecting cost on publication; The Committee of the National Fund for Academic Publication in Science and Technology, the Yunnan Forestry Department, and Yunnan Wildlife Conservation Association partially supported the publication of the book; This book was listed as important selection by China Forestry Publishing House, and Ms. Yan Li did a lof of work on edition and proof. Finally gratitudes to Academician Zhang Yaping, Drictor of Kunming Institute of Zoology, CAS, Prof. Yan Junxing, and Prof. Zhang Zhibin, Drictor of Institute of Zoology, the Chinese Academy of Sciences and Prof. Qiao Gexia for their concern and support to this work that makes the final completion.

Prof. *Wang Yingxiang*

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