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MINUTES OF THE INTERNATIONAL SYMPOSIUM ON
THE PROTECTION OF THE GIANT PANDA,
CHENGDU, CHINA 1993

成都国际大熊猫保护 学术研讨会论文集

成都动物园

成都大熊猫繁育研究基地 编

成都国际大熊猫保护学术研讨会论文集

**MINUTES OF THE INTERNATIONAL SYPOSIUM
ON THE PROTECTION OF THE GIANT PANDA
(*Ailuropoda melanoleuca*), CHENGDU, CHINA 1993**

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前 言

大熊猫(*Ailuropoda melanoleuca*)是中国特产的珍贵动物,是大自然留给人类的宝贵财富,深受人们的喜爱。由于不合理的资源开发活动及生境破坏和环境污染,对各种生物及其生态系统产生了极大的冲击,使野生动物的生存受到严重影响,大熊猫的处境更加恶劣,引起了中国政府的高度重视和国际社会的关注。

中国政府为保护自然、保护野生动物进行了长期不懈的努力。特别是在大熊猫保护方面,做了很多的工作。1962年,大熊猫被列为国家一级保护动物;1963年至今,全国已建立大熊猫保护区13个,面积达5927km²;1988年制定并实施了野生动物保护法;1992年国务院批准大熊猫栖息地保护工程,拟新建大熊猫保护区14个,建立大熊猫保护走廊带17条,以期更好地保护大熊猫,与此同时,也注意了大熊猫等野生动物的移地保护。全国已有动物园、饲养基地200多个,圈养野生动物600多种,数目达10万之多。其中34个动物园、基地圈养有大熊猫100只左右。为了加强野生动物的移地保护和管理,政府制定了《城市动物园管理规定》及《加强动物园野生动物移地保护工作的通知》,建立了卧龙大熊猫研究中心和成都大熊猫繁育研究基地,有效地促进了野生动物的移地保护和研究工作的开展。

1989年,在成都成立了中国大熊猫繁殖技术委员会。该会成立之后,每年组织一次学术交流,宣传普及大熊猫保护知识,编辑出版文献资料和研究论文,协调全国圈养育龄大熊猫的婚配等工作。为进一步推动全国圈养大熊猫的繁育工作发挥了积极的作用。1963年至1988年的26年间,全国有8个动物园和1个自然保护区繁殖大熊猫共93只,成活28只,成活率为30.11%。大熊猫繁殖技术委员会成立以后,1989年至1993年的5年间,全国就繁殖大熊猫38只,成活26只,成活率达68.42%。同时,在科研上也有重大突破。1990年成都动物园首创大熊猫“庆庆”繁育一胎二仔同时成活的纪录;1992年和1993年“庆庆”又分别繁育一胎二仔成活;1992年北京动物园大熊猫“永永”繁殖的一胎二仔,一只全人工喂养,首创未吃初乳育幼成活的纪录。

在国际上,大熊猫的保护事业也得到极大关注与支持。1961年世界野生生物基金会成立时,选中大熊猫图像作为会旗和会徽。从此,大熊猫成了全球自然保护的象征。它的临危处境牵动着亿万人的心弦,世界各国的保护组织和专家、学者尤为关注。1981年10月四川省林业厅在南充召开了第一次大熊猫学术研讨会之后,世界范围内先后在德国柏林(1984年9月)、中国北京(1987年3月)、日本东京(1987年11月)、中国杭州(1988年10月)、美国华盛顿D.C

(1991年6月)召开了保护大熊猫学术研讨会,对推动大熊猫的保护事业发挥了积极作用。

为了更广泛地开展国际学术交流,进一步促进大熊猫保护事业的发展与国际合作,1993年9月在成都召开了国际大熊猫保护学术研讨会。参加这次会议的有来自世界11个国家和地区的98名代表,交流研究报告和论文100余篇,主要有大熊猫就地保护战略和移地保护计划,大熊猫的饲养、管理、繁育、疾病防治、形态学、生态、行为以及分子遗传等多学科研究,内容广泛,学术水平高,反映了世界范围内保护、研究大熊猫的最新成果。

为了引起国际社会、政府部门和各界人士更广泛地重视保护自然、保护大熊猫等野生动物,并给予实际而有效的支持,也为了给从事大熊猫保护工作的官员和进行大熊猫研究的专家、学者提供参考,我们将此次会议的报告、论文、纪要等汇编成册,同时收集了《中国研究大熊猫的获奖课题》、《大事记熊猫》等内容共84篇。由于篇幅有限,在编排中采用全文、摘要、刊题三种形式出版,少数文章有中英全文,以方便阅读。

特别要提及的是,这次国际学术会议开得很成功,会议得到了日本动物园与水族馆协会、'93中国成都国际熊猫节组委会、日本东京动物园协会、美州动物园与水族馆协会、中国国家自然科学基金会、美国圣地亚哥动物园等单位,和查尔斯(Charles Wilson)、乔斯·库珀(Jose Iguacio Cobo)、林辉昭(Jeruaki Hayashi)等先生的资助,在此表示感谢。

本书的出版,由于编者水平有限,难免有误,敬请批评指正。

张安居

1994年6月

PREFACE

The giant panda (*Ailuropoda melanoleuca*), a rare and endemic species in China and valuable treasure gifted by nature, is deeply loved by people. Because of irrational exploitation to resource, damage to the ecological circle and pollution to the environment, all kinds of species and ecological system are greatly influenced, which severely threatens the existing condition of wild animals and worsens the giant panda situation. These phenomena have drawn great attention from the Chinese Government and international community.

In order to protect the nature and wild animals, the Chinese Government has made continuous efforts and done a lot of work, especially in the field of conservation of the giant pandas. Giant panda was stipulated as the first-class protected animal in 1962. Thirteen giant panda reserves, total area up to 5927km² have been set up all over the country. Since 1963 "Wild Animals Conservation Law" has also been laid down and put into effect. The Conservation Project for giant panda habitats was also approved by the State Council in 1992, in which 14 new giant panda natural reserves and 17 protected corridors are to be established, with ex-situ conservation at the same time. There have been more than 200 zoos and breeding bases all over the country in which over 600 species of wild animals, total number up to one hundred thousand, are reared, with about one hundred giant pandas in 34 zoos and bases.

In order to strengthen the ex-situ conservation and management of wild animals, "Management Regulations for Urban Zoos" and "Notice for Strengthening the ex-situ conservation of wild animals in the zoos" have been laid down by the government. Also Wolong Giant Panda Research Center and Chengdu Giant Panda Breeding Research Base have been established which effectively improved the ex-situ conservation and research work of wild animals.

The Chinese Technological Committee of the Giant Panda Breeding was established in Chengdu in 1989. After its establishment the committee has organized annual symposium, propagated and popularized conservation knowledge of the giant panda, edited and published literature and research papers, coordinated the mating of the giant panda at breeding age in the country, all of which made contributions to the giant panda breeding work.

During the 26 years from 1963 to 1988, 93 pandas were bred in eight zoos and one nature reserves, 28 of which survived, with the survival rate of 30.11%. During 5 years from 1989 to 1993, after the establishment of the committee, 38 giant pandas have been born, 26 of which survived, with the survival rate of 68.42%. There was also great breakthrough in scientific research. A record that Qingqing bred two-cub litter in a giant panda and both survived was set up in 1990. Qingqing also bred two-cub litter in a giant panda and both survived in 1992 and 1993 respectively. In 1992, the giant panda named Yongyong of Beijing Zoo also reproduced two-cub a litter, one of which was fully artificially reared without its own maternal milk.

In international community, giant pandas conservation cause has also been shown great solicitude for and supported. When the establishment of world life foundation in 1961, the giant

panda was choose as sign of the flag and badge of the association. From then on the giant panda has become the symbol of globe nature conservation. Its dangerous situation has dragged in the hearts of people in their hundreds of millions, especially those of conservation organizations, specialists and scholars all over the world.

After the first giant panda academic discussion held at Nanchong(Sichuan)in October, 1981 by Bureau of Forestry of Sichuan Province, giant panda protection academic conferences had successively been held in Berling (Germany, September, 1984), Beijing (China, March, 1987), Tokoyo (Japan, November, 1987), Hangzhou (China, October, 1988) and Washington D. C. (U. S. A. June, 1991), which made great contributions to the cause of giant panda conservation.

In order to launch wider international academic communication and enhance international cooperation of giant panda conservation cause, International Giant Panda Conservation Academic Symposium was held in Chengdu in September, 1993. There were 98 representatives from 11 countries and regions attending this meeting. About 100 academic papers and research reports were communicated which involved multiple subject research, mainly about in-situ conservation strategies, ex-situ protecting plans, giant panda rearing management, breeding, ailment protection, morphology, ecology, behaviour and molecular genetics etc, with wide content and advanced academic level, showing the latest achievment of giant panda conservation and research work in the world.

We published this proceedings of the meeting which collects 84 papers together with "The awarded subjects of the giant panda research in China" and "The big event of giant panda" for drawing further attention to nature and wild animals including the giant panda with practical and effective support from international community, government and people from all walks of life, also for providing more information to the officers who are in charge of giant panda protection and specialists, scholars who are engaged in the research of giant panda. Because of the limited space, we take three forms in the proceedings: the whole papers, abstracts and titles. To make read easier, some papers are billingual.

We owe much to the following associations and persons for their financial support to the success if the meeting.

The Zoological and Aquarium Society of Japan

International Panda Festival '93 Organization Committee(Chengdu, China)

Zoological Society of Tokoyo

The Zoological and Aquarium Society of America

San Diego Zoo(U. S. A.)

Mr. Charles Wilson

Mr. Jose Iguacio Cobo

Mr. Teruaki Hayashi

Zhang Anju

June, 1994

在'93 成都国际大熊猫保护学术研讨会上的讲话

各位专家、学者、各位领导、来宾，女士们、先生们：

由中国动物园协会、中国野生动物保护协会主办，成都市人民政府承办的'93 成都国际大熊猫保护学术研讨会，今天在成都隆重开幕了！

借此机会，请允许我代表成都市人民政府和成都人民向各位领导、各位来宾、专家、学者和朋友们表示热烈的欢迎！向关心、支持大熊猫保护事业的国内外有关保护组织、团体和人士表示衷心地感谢！

大熊猫是世界著名的珍稀濒危野生动物，是中国的国宝，是大自然给人类留下的宝贵遗产，深受各国人民的喜爱。我国政府十分重视大熊猫保护事业，既加强了野外栖息地保护，又注重了移地保护，并于 1993 年启动了具有世界意义的“大熊猫及其栖息地保护工程”，经过长期的不懈努力，中国大熊猫保护工作取得了重要的进展和出色的成就。今天，世界各国的生物学家、动物学家和大熊猫专家以及有关方面人士聚会中国大熊猫的故乡——成都，召开国际学术研讨会，研究大熊猫就地保护和移地保护计划，并对保护大熊猫的各种研究成果进行学术交流。这是继前三届国际大熊猫保护学术研讨会后的又一重要国际性学术会议，再次表示了全人类拯救大熊猫和保护野生动物的信念与决心。

成都是四川省省会，重要的科学文化中心，著名的历史文化名城。十多年来，在改革开放的潮流中，成都的建设取得了飞速的发展，我们正在向着国际化，现代化的大都会迈进。我热忱地欢迎光临成都的专家、学者和国际友人到成都的各个地方参观、访问和考察，并希望进一步加强交流与合作，创造更多共同发展的机会。

女士们、先生们、朋友们，盛会虽短，但意义长存。我期望这次国际学术会议取得积极的成果，进一步激发、鼓舞人们保护大熊猫的信心并促进国际间更广泛的合作与交流。让我们携起手来，共同努力，让稀世珍宝大熊猫与人类永远共存。

祝愿各位在中国四川成都'93 国际熊猫节期间度过一段美好时光。

预祝'93 成都国际大熊猫保护学术研讨会取得圆满成功。

谢谢！

中国四川成都'93 国际熊猫节组委会执行副主席

成都市副市长

舒銮逸

1993 年 9 月 24 日

Address to the International Giant Panda Conservation Symposium '93 Chengdu

Ladies and Gentlemen,

The International Giant Panda Conservation Symposium '93 Chengdu, sponsored by the Zoological Society of China and the Wild Animal Conservation Society of China, undertaken by Chengdu Municipal Government, is opened grandly here at Chengdu today!

I, on behalf of Chengdu Municipal Government and her people, would like to express my most enthusiastic welcome to all the guests, specialists and friends here and my regard and thanks to organizations, groups and personnel for their care and support for the conservation cause of the giant panda.

The giant panda, a world-famous, rare and endangered wild animal, the national treasure of China and precious heritage gifted by the nature, is deeply beloved by people of the world. Paying great attention to the Giant Panda's conservation cause, the Chinese Government not only strengthens the protection of field habitats, but also lays stress on the ex-situ conservation "The Giant Panda and its Habitats Protection Project" of world significance was started in 1993. After long and continuous efforts, important progress and excellent achievement have been obtained about the giant panda's protection work in China. Today, biologists, zoologists, giant panda specialists and other people concerned from all over the world gathered here-Chengdu, the native place of Chinese giant panda and hold an international symposium to study the in-situ and ex-situ protection plan of the giant panda and communicate research achievement of the giant panda protection. This is another important international symposium after other three international meetings held before, which shows the faith and resolution of saving the giant panda and protecting wild animals of human beings.

Chengdu, the capital of Sichuan Province, is an important scientific and cultural center and a famous historical city. The built-up of Chengdu has made great progress in the tide of reform and open over the past ten years and we are striding forward towards an international and modern metropolis.

I welcome cordially all of you to visit and inspect everywhere in Chengdu, through which we can improve our communication and cooperation so as to create more opportunities to develop.

Ladies and gentlemen, in spite of the short grand meeting, the significance is ever lasting. I hope a positive result will be achieved in this conference and faith for the giant panda conservation will be encouraged to develop wider communication and cooperation. Let's work hand in hand and make the rare species live with us human beings forever.

I wish you a good time during the Giant Panda Festival!

Congratulate beforehand the symposium will be fruitful and successful!

September 24th, 1993
Shu Luanyi
Vice Mayor, Chengdu City
Vice Executive Chairman of
The International Giant Panda
Festival '93 Chengdu, Sichuan
China

向国际大熊猫保护学术研讨会的祝辞

隆重地主办 1993 年国际大熊猫节与国际大熊猫保护学术研讨会的中国林业部、中国建设部、中国国务院新闻办公室、中国环境保护局、四川省人民政府、成都市人民政府的各位领导、列席的各位来宾、先生们、女士们以及各位朋友们：

值此国际大熊猫保护学术研讨会开幕之际，请允许我向大会献上祝辞。

当今世界，环境破坏正以地球规模进行着，众多的生物面临着生死存亡的危机。世界的宠物——大熊猫也不在例外。勿庸置言，大熊猫仅生息于贵国，她是全世界的大自然的珍宝之一。大熊猫十分可爱，所以她深受世界上人们所喜爱，然而同时，她又是在生物学上具有极为重要意义的动物。大熊猫的生物学特征，至今尚存在着不少未解之谜，引起许多研究者的关心。可是，按现状下去的话，恐怕在大熊猫的全貌剖解之前，这个可爱而且宝贵的生物种类将会消亡，所以拯救大熊猫也可以说是全世界的使命。

保护大熊猫不仅仅局限于大熊猫，还在于保护生息在这个地区的众多生物。世界自然保护基金(WWF)的象征标志是大熊猫。大熊猫被认为是作为环境保护、生物保护之标帜的最相称的动物。

为了拯救大熊猫，我们究竟应该做些什么？问题是堆积如山。在事态如此紧迫之际，大熊猫的研究学者们聚会于一堂，研究讨论为拯救大熊猫和保护环境应该采取的行动。所以说，举办本届专题研讨会具有极其深远的意义。

另外，环境保护离不开普通人民大众的理解与支持。

为唤起大众关心而举办的大熊猫节，使多数的人们在愉快地观赏中，理解到保护生息于大自然中的野生生物和环境的重要意义，为人们对此问题的思考提供了一个良机。可以说这是一个不失时宜的盛会。

在此，我对于举办本次盛会的有关人员所作出的努力以及所给予的关怀表示深切的敬意与感谢。并衷心祝愿大熊猫保护研讨会获得丰硕成果。

谢谢诸位！

东京都恩赐上野动物园长
日本动物园水族馆协会 会长 增井光子
日动水种保存委员会委员长
1993 年 9 月 24 日

Address to the International Giant Panda Conservation Symposium

It is my pleasure to address before the honorable people of the Ministry of Forestry, Ministry of Construction, Information Office of the State Council, State Bureau of Environmental protection, Sichuan Provincial Government and Chengdu Municipal Government undertaking the International Panda Festival '93 and International Giant Panda Conservation Symposium and the guests and other distinguished personnal gathering here today for the symposium.

Today, environmental destruction is in progress in a global scale, and many kinds of animals and plants are at the critical moment for survival. The giant panda, which is an idle of the world, is not an exception. The giant panda is living only in your country and is one of the natural treasures in the world. The giant panda beloved by the people of the world on account of its loveliness is also a biologically very interesting animal. Its biological characteristics are still comprising a number of mysteries and are continuously attracting the interests of the research people. But, as the things are at present, this lovely and precious species may cease to exist before all of the giant panda are clarified. To save the giant panda is the mission of the world.

To protect the giant panda helps support the life of many other animals living in the district. The giant panda taken as a symbol mark of the World Wide Fund for Nature is really a worthy animal as flag animal for environmental and biological protection.

What shall we do for protection of the giant panda? Problems are accumulating. At this time when the situation is imminent, it is really significant that this symposium is held for the researchers of giant Panda to gather and look for the actions to preserve the giant panda as well as environment.

Environmental conservation is scarcely implemented without understanding and cooperation of people in general. In this sense, the International Panda Festival '93 held concurrently will provide a field which will no doubt offer the opportunities for many people to enjoy and, as a matter of course, consider the significance of protecting the wildlife and environment.

I would like to express my best regard and thanks for the considerations and efforts of the personnal concerned with operation of the festival as well as the symposium and hope the symposium will be fruitful and successful.

Thank you.

September 24, 1993

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目 录

Contents

第一篇 保护与管理

中国移地保护工作的现状与展望.....	柳尚华(1)
The Present Status and the Prospects of the Ex-Situ Conservation Work in China	Liu Shanghua
中国大熊猫移地保护计划.....	建设部城建司(4)
Giant Panda Ex-Situ Plan	Ministry of Construction, China
中国保护大熊猫及其栖息地工程与实施	范志勇(16)
China National Conservation Project for the Giant Panda and its Habitat, and the Implement of the Project	Fan Zhiyong
圈养大熊猫繁殖计划	郑淑玲等(22)
A Breeding Plan of Captive Giant Pandas	Zheng Shuling et al.
中国大熊猫繁育技术委员会的建立与发展	张安居(33)
Establishment and Development of Chinese Technological Committee of Giant Panda Breeding	Zhang Anju
中国成都大熊猫繁育研究基地的建设与发展	李绍昌(44)
Construction and Development of Chengdu Research Base of Giant Panda Breeding	Li Shaochang
成都圈养大熊猫的繁殖对策	何光昕(53)
Artificial Breeding Strategies of Captive Giant Panda in Chengdu	He Guangxin
四川省大熊猫保护发展战略	李建国(58)
Discussion of the Conservation and Development Strategy for Giant Panda of Sichuan Province	Li Jianguo
抢救工作在大熊猫保护管理中的地位和作用	曹永汉等(64)
Studies on Role and Status of Rescuing Work in the Preservation and Management of Giant Pan- da	Cao Yonghan et al.
抢救大熊猫	田安顺(67)
The Rescue of Giant Panda	Tian Anshou
卧龙自然保护区的发展与规划	张科文等(70)
Development and Plan of Wolong Nature Reserve	Zhang Kewen et al.
佛坪自然保护区大熊猫的现状 & 保护对策	张 坚(75)
Giant Pandas Present Condition and Protection Policy in Foping	Zhang Jian

四川省救护大熊猫情况	龚继恩(79)
Analysis of Giant Pandas Rescued in Sichuan Province	Gong Jien
甘肃省大熊猫受灾抢救情况	田安顺(83)
The Saving Work of the Giant Panda in Gansu	Tian Anshun
大熊猫的圈养管理	王万民等(84)
The Keeping and Management of the Giant Panda	Wang Wanmin et al.
1981—1992 年中国大熊猫的实验室研究进展	冯文和等(90)
The Progress in Laboratory Studies of Giant Pandas in China from 1981 to 1992	Feng Wenhe et al.
Perspective on Conservation Genetics with Respect to Conservation	Stephen J O'brien, et al. (112)

第二篇 野外生态与食竹

大熊猫种群生存力初步分析	魏辅文等(116)
Population Variability Analysis of Wuyipeng Panda Population	Wei Fuxwen et al.
马边大风顶自然保护区大熊猫的觅食行为与营养对策	胡锦涛等(123)
Feeding Behavior and Nutrition Strategy of Giant Panda in Mabian Dafengding Natural Reserve	Hu Jinchu et al.
秦岭大熊猫的种群动态:对数量、年龄、性别结构及内分布型的研究	潘文石等(132)
Population Dynamics of Qinlings Giant Pandas: Research on Number, Age and Sex Structure and Internal Distribution Pattern	Pan Wenshi
五一棚野生大熊猫和其它动物的观察	Suan A. Mainka et al. (139)
Observations on Free-ranging Giant Pandas and other Wildlife at Wuyipeng	Suan A. Mainka et al.
大熊猫栖息地竹子开花后的幼苗更新	秦自生(144)
Seeding Renovation of Bamboo after Flowering in the Nabitat of Giant Panda	Qin Zisheng
Pandas as Specialists: The Impact of life History of Bamboos on Panda Ecology and Conservation	Alan H. Taylor(149)
大熊猫栖息地的气候情况	胡毅(155)
The Climate in Giant Panda Habitats	Hu Yi

第三篇 繁殖与育幼

大熊猫人工育幼研究及一胎二仔成活	钟顺隆等(158)
A study of Artificially Feeding Juveniles and panda Survivorship of a Two-cub Litter in a Giant Panda	Zhong Shunlong et al.
全人工哺育大熊猫初生兽的研究	刘维新等(164)
A Study of Hand-rearing of Newborn Giant Panda	Liu Wenxin et al.
大熊猫在成都的繁育	宋云芬等(173)
Breeding of the Giant Pandas in Chengdu	Song Yunfang et al.

1963—1993 年北京动物园大熊猫的繁殖记录	黄世强(179)
A Breeding Record of the Giant Pandas in Beijing Zoo during 1963 to 1993	Huang Shiqiang
大熊猫公兽“良良”的培育	侯启明等(184)
The Cultivate of Male Giant Panda "Liang-liang"	Hou Qimin et al.
大熊猫种公兽的培育	何庭美等(187)
Training Male Giant Pandas for Natural Mating	He Tingmei et al.
大熊猫配种期的性行为与接触方式	高凤歧等(189)
The Information and the Contact Style of Giant Panda during the Breeding Period	Gao Fengqi et al.
大熊猫冷冻精液解冻液筛选实验初报	费立松等(193)
The Preliminary Report on the Selection Experiments of Giant Pandas Freezing Semen Thawing Liquids	Fei Lishong et al.
圈养大熊猫的配种及产仔效果研究	冯文和等(197)
The Study on the Mating and Farrowing Effect of Giant Panda of Artificial Feeding	Feng Wenhe et al.
早孕大熊猫的胚源性血小板活化因子	龚亚奇等(204)
Embryo-derived Platelet-activating Factor in Giant Panda	Gong Yaqi et al.
大熊猫“成成”产仔及育幼行为初步观察	叶志勇等(208)
A Preliminary Obseration on Giant Panda "Cheng-cheng" Birth-giving and Parental Care Behavior	Ye Zhiyong et al.
圈养大熊猫育幼行为初步观察	费立松等(212)
The Preliminary Observation of the Cub-raising Behavior on Captive Giant Panda	Fei Lishong et al.
大熊猫产仔及育幼行为观察	汤纯香等(216)
Parturition and Maternal Behaviour in Giant Pandas	Tang Chunxiang et al.
卧龙大熊猫的繁殖与人工巢	张和民等(221)
Studies on the Reproduction of Captive Giant Pandas and Artificial Den at the Wolong Nature Reserve	Zhang Hemin et al.
大熊猫的数量变化及人工繁殖研究	冯文和等(226)
Study on the Numberal Change and Artificial Breeding Effect of Giant Panda	Feng Wenhe et al.
成都动物园大熊猫人工授精技术概况	费立松等(231)
Artificial Insemination for Giant Panda in Chengdu Zoo	Fei Lisong et al.
人工哺育大熊猫初生幼兽“绿地”的营养供给	张贵权等(235)
Alimentation Allowance of a Hand-raised Infant Giant Panda "Lu-De"	Zhang Guiquan et al.
人工哺育大熊猫幼仔“绿地”生长发育的观察	陈猛等(236)

Observations on the Growth and Development of a Hand-raised Infant Giant Panda	Chen Meng et al.
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第四篇 激素、代谢与遗传

大熊猫尿中雌二醇、孕酮含量周期性变化的初步研究	谢钟等(238)
Cyclical Change of Estradiol and Progesterone Level in Urine of Female Giant Panda	Xie Zhong et al.
大熊猫发情期尿中雌激素浓度的变化	陈玉村等(243)
Urinary Estrogen Concentrations at Estrus in the Giant Panda	Chen Yucun et al.
大熊猫发情期尿中激素的 ELISA 测定与适时配种	李学兵等(247)
Measuring Hormones in Oestrus Urine by Elisa and Timely Insemination of Giant Panda	Li Xuebing et al.
大熊猫妊娠测定的试验初报	郭卫等(251)
Preliminary Report on Test of Pregnancy of Giant Panda	Guo Wei et al.
大熊猫持续性发情之一例	田边兴记(252)
A Case of Prolonged Estrus in a Giant Panda at Ueno Zoo	Koki Tanaibe
大熊猫适时配种及产仔效果研究	叶志勇等(254)
The Study on the Effect of Timely Mating and Breeding of Giant Panda ...	Ye Zhiyong et al.
大熊猫妊娠分娩期尿中孕酮含量的变化规律与妊娠分娩诊断	彭世媛等(255)
Studies on Changes of Progesterone Level in Urine of Giant Pandas During Pregnancy and Parturition and Diagnosis of Pregnancy and Parturition	Peng Shiyuan et al.
大熊猫被毛中孕酮、睾酮含量的季节性变化	郭大智等(256)
大熊猫毛发中 16 种氨基酸的测定	何庭美等(260)
Determination of Amino Acid Levels in Hair of Giant Pandas	He Tingmei et al.
大熊猫血清 T_3 、 T_4 水平研究	何庭美等(263)
Serum T_3 、 T_4 Levels in Giant Panda	He Tingmei et al.
五种低山平坝竹饲喂大熊猫的消化试验	胡元玉等(266)
Digesting Test of Five Kinds of Bamboos on Giant Panda	Fu Yunyu et al.
有关大熊猫的蛋白代谢之讨论	增井光子(270)
Some Observations on Giant Pandas Protein Metabolism	Mitsuko Masui
大熊猫日粮粗纤维消化率的研究	陈玉村等(279)
A Study of Digestibility Rate of Crude Fiber in Daily Food of the Giant Panda	Chen Yucun et al.
大熊猫消化代谢试验	邹兴准等(284)
The Experiment on Giant Pandas Digestion and Metabolism	Zou Xinghuai et al.
人工哺育大熊猫初生幼兽“绿地”消化率的测定	张贵权等(290)
Digestive Rate of a Hand-raised Infant Giant Panda "Lu-De"	Zhang Guiquan et al.
大熊猫遗传多样性的蛋白质电泳研究	宿兵等(292)