中国鸟类研究简讯

Newsletter of China Ornithological Society

中国动物学会鸟类学分会
China Ornithological Society

全国鸟类环志中心
National Bird Banding Center

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黑枕黄鹂（*Oriolus chinensis*）
摄影 孙梦晓

红颈瓣蹼鹬（*Phalaropus lobatus*）
摄影 薄顺奇

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“2016 北京国际雉类学术研讨会暨第六届国际鸡形目鸟类学术研讨会”成功召开

“2016 北京国际雉类学术研讨会暨第六届国际鸡形目鸟类学术研讨会”于 2016 年 10 月 21—23 日在北京林业大学召开。来自中国、美国、英国、德国、荷兰、丹麦、捷克、印度、越南、巴基斯坦等近 20 个国家和地区的 190 余位代表参加了本次研讨会，包括 53 位国外代表、140 位中国代表。本次会议由世界雉类协会（WPA）与中国动物学会鸟类学分会（COS）联合主办，北京林业大学承办，支持单位为国家林业局野生动植物保护与自然保护区管理司。中国野生动物保护协会、山西省林业厅、北京动物园、北京动物学会、北京市野生动物救护中心、太原动物园、成都动物园、山西庞泉沟国家级自然保护区、四川蜂桶寨国家级自然保护区、Avian Research 编辑部、鸟网、海南师范大学省部共建实验室、北京师范大学生物多样性与生态工程教育部重点实验室、自然影像中国等单位协办。会议期间，鸟网（www.birdnet.cn）举办了中国鸡形目鸟类摄影展，中国高等教育出版社、英国 Biotrack 公司、Avian Research 编辑部等展出了无线电遥测的设备、图书、期刊等商品。

10 月 22 日上午的会议开幕式由中国动物学会副理事长、北京师范大学张正旺教授主持，北京林业大学副校长李雄教授代表承办单位、世界雉类协会主席 Keith Chalmers-Watson 先生和中国动物学会鸟类学分会理事长丁平教授代表主办单位分别致辞，欢迎来自世界各地的各位代表参加研讨会。国家林业局野生动植物保护与自然保护区管理司张德辉处长代表会议支持单位致辞，介绍了国家林业局已经实施的珍稀雉类保护工程的进展和成果，对研讨会的举办表示祝贺，并宣布国家林业局在十三五期间将继续大力支持中国珍稀雉类的研究工作。世界雉类协会会长、北京师范大学郑光美院士，北京濒危动物驯养繁殖中心程彩云老师、中国科学院动物所何芬奇先生，以及各协办单位的代表和来自世界各地的专家学者、研究生、自然保护区的代表出席了开幕式并合影留念。

本次研讨会的主题是围绕全球珍稀雉类、鹑类、松鸡等鸡形目鸟类的科学研究、保护管理、人工繁育、可持续发展等开展学术交流，重点关注生存受威胁的珍稀濒危物种及其栖息地的保护与管理，设有大会报告、专题报告、圆桌会议和墙报等环节。大会邀请了国内外知名专家和学者做了 8 个大会报告，分别为美国佛罗里达大学 Rebecca Kimball 教授的“鸡形目鸟类的进化关系”，德国 Siegfried Klaus 教授的“镰翅鸡 *Falcipennis falcipennis* 的生态、行为与保护”，中国中山大学刘阳副教授的“雉鸡 *Phasianus colchicus* 的分类、遗传和进化”，瑞典 Jacob Hoglund 教授的“松鸡的基因组学研究”，德国欧洲动物园与水族馆协会雉类饲养专家 Simon Bruslund 和英国 John Corder 先生的“欧洲鸡形目鸟类饲养、繁殖与管理项目”，中组部青年千人计划入选者、中国科学院动物所詹祥江研究员的“野生鸟类基因组和种群遗传学”，美国佛罗里达大学 Edward Braun 教授的“雉类进化的全基因组测序研究”、中国台湾洪志铭研究员的“灰胸竹鸡 *Bambusicola thoracica* 的岛屿与大陆种群分化”。

在会议专题报告中，来自中国、尼泊尔、英国、荷兰、巴基斯坦、印度等国家的 19 位代表就鸡形目鸟类的野外种群调查、监测与观测网络、繁殖行为、警戒行为与栖息地选择、进化、谱系地理重建、基因组及遗传多样性、就地保护、易地保护与再引入等方面做了专题报告，并同与会代表进行了热烈讨论。此外，24 张会议墙报的作者与参会专家学者就国内外雉类研究的最新成果进行了深入的交流，浙江乌岩岭、山西庞泉沟、江西武夷山、四川老君山等 10 个中国国家级自然保护区就各自在雉类保护与研究中的成功经验进行了专项展示。本次研讨会出版了论文摘要集，共收录论文摘要 59 篇。

会议期间组织召开了 2 个圆桌会议。10 月 21 日下午召开了“中国自然保护区建设与鸟类科研基地建设研讨会”，由北京林业大学自然保护区学院徐基良副院长主持，来自山西庞泉沟、芦芽山、江西武夷山、浙江乌岩岭、四川老君山、河南董寨、甘肃莲花山、云南高黎贡山、内蒙古毕拉河等国家级自然保护区的 20 余位代表通过视频、PPT 等形式，分享各自在雉类种群调查监测与保护中的成功经验与做法，也对在保护区保护管理中面临的困难及可能的解决措施进行了认真交流与讨论。中国动物学会鸟类学分会张正旺教授、孙悦华研究员、丁长青教授、张雁云教授、栾晓峰教授、王楠副教授等专家参加了讨论，国家林业局野生动植物保护与自然保护区管理司自然保护区管理处也派代表参加了会议。

10 月 22 日晚举办了“灰腹角雉野外调查研究项目和笼养雉类繁育座谈会”，由雉类协会专家 John Corder 先生和 Simon Bruslund 先生主持，来自英国、德国、捷克、越南、印度和中国北京动物园、太原动物园、成都动物园、广州长隆野生动物园、北京野生动物救护中心、西南林业大学和高黎贡山国家级自然保护区的 20 多名代表参加了讨论。Geoffrey Davision 博士和 Adrish Poddar 先生分别介绍了缅甸和印度灰腹角雉的野外研究进展。John Corder 先生强调开展灰腹角雉野外调查和研究对于了解这一物种的生存现状和开展进一步保护的重要性，并表示世界雉类协会将继续支持灰腹角雉调查项目。会议建议在印度、缅甸和中国境内更多的地点开展野外种群调查，在研究团队之间展开合作。在讨论中还提到了进一步密切世界雉类协会与中国动物园协会和成都动物园的联系。有关专家表示愿意积极促进世界雉类协会与各国动物园特别是有亚洲特有鸡形目鸟类的中国动物园的合作。

总体上，本次学术研讨会具有以下四个突出特点。一是与会代表面广。与会代表来自近 20 个国家和地区，代表所属单位涉及高等院校、科研院所、自然保护区管理局及有关机构、非政府组织、动物园、饲养繁殖中心及相近机构，其人数和单位均较以往有明显增加。二是研究内容丰富。本次研讨会既有鸡形目鸟类分布、数量调查、繁殖及栖息地选择等传统研究内容，也有系统进化、基因组学等最新研究方向，也涉及到全国尺度监测网络建设，还就进一步提高鸡形目鸟类保护有效性提出了新的要求。三是研究进展迅猛。国内外学者在珍稀雉类研究方面，特别是在鸡形目鸟类的种群监测、生态适应、基因组学及遗传多样性等研究领域均取得了显著的突破。四是基层机构作用彰显。自然保护区、动物园、救护繁育中心等基层管护机构在雉类保护管理、科学研究、公众教育中的作用在本次会议上得到充分展示，来自这些机构的代表们对参与交流与展示的积极性较高，且富有激情。

10 月 23 日下午举行了会议的闭幕式，由中国动物学会鸟类学分会丁平理事长和世界雉类协会主席 Keith Chalmers-Watson 先生主持。英国 Geoffrey DAVISON 博士对本次会议进行了学术总结；Keith Chalmers-Watson 先生、Brigadier Mukhtar Ahmed 先生、Simon Brunsland 先生及中国动物学会鸟类学分会周放副理事长、杨晓君副理事长和本次大会秘

书长徐基良教授分别为浙江乌岩岭、山西庞泉沟、甘肃莲花山、河南董寨、福建武夷山、四川老君山、贵州宽阔水等 7 家国家级自然保护区授牌为“中国濒危雉类研究基地”，并为“优秀墙报奖”、“大会报告纪念奖”、“大会特殊贡献奖”的获得者颁发了证书及纪念品。最后，世界雉类协会 Keith Chalmers-Watson 先生对承办单位北京林业大学出色的工作表示感谢，并给本届大会组委会的核心成员张正旺教授、孙悦华研究员、丁长青教授、徐基良教授、张雁云教授、张敬女士等赠送了纪念品。

会后，与会部分专家代表赴山西庞泉沟国家级自然保护区、四川蜂桶寨国家级自然保护区、太原动物园和成都动物园等地进行了实地考察。在京期间，部分代表还参观了北京动物园。这些野外考察和参观活动得到了山西林业厅、四川林业厅及各家单位的热情接待。

本次研讨会充分展示了世界各国学者在鸡形目鸟类研究与保护方面的最新成果，促进了各国专家的交流和联系，拓展了中国鸟类学家、自然保护区管理人员、动物饲养繁育单位技术人员与世界雉类协会进一步合作的空间，这必将对我国今后一段时期内鸡形目鸟类的研究、保护、管理及饲养繁育工作产生积极的促进作用。

（2016 北京国际雉类研讨会组委会）

“第 12 届翠鸟论坛”在北京师范大学召开

2016 年 8 月 24—25 日，中国青年鸟类学家研讨会暨第 12 届翠鸟论坛在北京师范大学成功召开。本次会议由中国动物学会鸟类学分会主办，北京师范大学生命科学学院承办。

来自北京师范大学、中国科学院动物研究所、北京林业大学、中国林业科学研究院、东北师范大学、武汉大学、中山大学、复旦大学、广西大学、中央民族大学、东北林业大学、海南师范大学、河北师范大学、华南濒危动物研究所、辽宁大学、江西农业大学、吉林农业大学、西南林业大学等 20 个单位的 70 余位同学参加了本届论坛。北京师范大学郑光美院士，中国动物学会鸟类学分会副理事长张正旺教授、副理事长卢欣教授和秘书长张雁云教授，中科院动物所陶毅研究员、武汉大学赵华斌教授、台湾中央研究院沈圣峰副研究员、中科院动物所李欣海副研究员、浙江大学斯幸峰博士、北京师范大学董路副教授和夏灿玮博士等参加了本次论坛的多项活动。

本次论坛分为专家讲座、学生报告、墙报交流和师生研讨等 4 个单元。在专家讲座中，陶毅研究员讲授了进化博弈动力学的基本理论与发展历史；武汉大学赵华斌教授以“食性分化的分子适应：从兽类到鸟类”为题，详细介绍了基因组学的发展对鸟类与兽类食性进化的分子机制研究的促进与最新研究进展；台湾中央研究院沈圣峰副研究员以“生于忧患，死于安乐的生态演化启示”为主题的报告，通过三项高水平的研究工作，使同学们对于动物行为与进化生态学研究有了深入的认识，更感受到了东方哲学在自然科学研究中展现出的魅力；中科院动物所李欣海副研究员的“从线性到非线性 —— 几种常见统计模型”讲座，深入浅出的讲解了多种统计模型在生态学研究中的应用及难点；浙江大学斯幸峰博士“岛屿生物地理学”的报告与北京师范大学夏灿玮博士“鸟类鸣声研究方法”的报告拓宽了同学们的学术视野，增进了对科学研究工作的认识，为今后更好的开展科研工作打下了基础。

为了促进参会专家与同学们的交流，本次论坛特别设置了学生报告的专家点评环节，并在就餐时安排每名专家与同学们围桌而谈，自由交流，可以更加深入而广泛地讨论科研过程中遇到的问题，受到了同学们的广泛欢迎与专家的一致好评。

在学生报告中，共有 19 位同学从鸟类的

繁殖与生活史进化、行为生态、分子进化、群落动态、迁徙和保护生物学等方面进行了演讲。另有来自北京师范大学、复旦大学、中国科学院大学、北京林业大学等单位的 9 名同学做了墙报展示。本次论坛通过师生交流会就同学们在开展科研工作时最为关心的问题进行了深入而广泛的交流。经参会同学与专家共同投票（每个单位 1 张选票），选出了本届论坛优秀学术报告的金翠鸟奖、银翠鸟奖、优秀墙报奖和优秀报告奖。

在闭幕式上郑光美院士发表了讲话，对翠鸟论坛十二年来的连续举办给予了鼓励，肯定了翠鸟论坛对国内鸟类学研究生培养与交流的促进作用。他同时提出，希望同学们今后在学习中要重点提升科研能力，把握各类学术交流的机会，扩展学术视野，为我国鸟类学研究的快速发展贡献力量。随后，郑先生亲自为获得金翠鸟奖和优秀墙报奖的同学颁发了证书和奖品。

第 **12** 届翠鸟论坛获奖名单：

金翠鸟奖：

刘博野（北京师范大学）、韩雪松（北京林业大学）、郝艳（中科院动物研究所）

银翠鸟奖：

徐向龙（中央民族大学）、郑佳（北京师范大学）、方小斌（北京林业大学）、储杏枝（广东省生物资源应用研究所）、张亚楠（中国林业科学院）、张敬刚（北京师范大学）

优秀墙报奖：

谭坤（复旦大学）、徐文婷（北京师范大学）

（北京师范大学：董路）

“第五届黑颈鹤国际网络年会”在甘肃盐池湾国家级自然保护区召开

2016 年 8 月 21—23 日，第五届黑颈鹤国际网络年会暨黑颈鹤迁徙与保护研讨会在甘肃盐池湾国家级自然保护区所在地甘肃省肃北蒙古族自治县召开，会议主题为“黑颈鹤迁徙与保护研究”。本次会议由甘肃省林业厅、国际鹤类基金会、全国鸟类环志中心和中国科学院昆明动物研究所联合主办，甘肃盐池湾国家级自然保护区管理局、肃北蒙古族自治县人民政府、甘肃省野生动物保护协会、兰州大学生命科学学院承办。21 日上午的开幕式由甘肃省林业厅保护处申俊林处长主持。甘肃省林业厅张平副厅长、全国鸟类环志中心陆军主任、国际鹤类基金会哈里斯（Jim Harris）主席分别代表甘肃省林业厅、黑颈鹤网络年会成员单位和国际鹤类研究机构致辞。

来自美国驻成都总领事馆、WWF- 印度、中国科学院西北高原生物研究所、国家高原湿地中心、西藏高原生物研究所、四川大学、贵州大学、青海省林业厅、新疆罗布泊野骆驼国家级自然保护区、可可西里国家级自然保护区、北京绿野方舟等 40 个国内外高校、科研院所、林业主管部门、非政府组织和自然保护区的 98 名代表参加了学术研讨会。此次研讨会按回顾和进展、宣传和管理、科研和监测、保护网络等四个主题交流了 26 个报告，其中来自我国科研院所的 11 位专家和来自印度的 Pankaj 分别介绍了我国各地和印度黑颈鹤的研究和保护进展；从事环境教育的中美工作者组织了宣传和管理这一专题，共有 10 位学者做了环境教育的报告。除有关黑颈鹤的研究和交流外，今年还是美国国家公园建立 100 周年，美国驻成都领事馆的 Dr. Heidi Hartman 专门做了美国国家公园的历史和发展的报告。在 22 日下午的闭幕式上，中科院昆明动物研究所杨晓君研究员进行了全面总结，对本次研讨会给予了很高评价，并对“黑颈鹤网络”的发展和黑颈鹤研究提出了诸多建议。

21 日晚，大家观看了由盐池湾保护区管理局和森林公安分局精心准备的，与美国黑颈鹤保护工作者联袂表演的以“魅力盐池湾，情系黑颈鹤”为主题的原生态文艺晚会。节目内容涵盖黑颈鹤保护区所有民族的文化元

素，特别是《盐池湾精灵 - 黑颈鹤》、《热心的伊大叔》《刀郎麦西莱普》和《黑颈鹤木偶故事》等节目更是将黑颈鹤的保护与艺术进行了完美结合。

黑颈鹤网络从建立到现在已经走过了 5 年的历程，保护与研究网络队伍不断发展壮大，已达 98 人的规模。不论是参会单位和人数，还是涉及的黑颈鹤保护区域，本次研讨会都是最多的一次。代表们从多个角度展示了研究内容，兼顾了黑颈鹤研究进展、越冬地科研成果、繁殖地成果，同时还增加了黑颈鹤保护环境教育的相关内容，使得黑颈鹤研究与保护、宣传与教育、科研与监测相衔接。会议取得了圆满成功。

（中科院昆明动物所：杨晓君；
兰州大学：张立勋）

“中国青头潜鸭保护网络构建研讨会”在北京林业大学召开

2016 年 12 月 10 日下午，“ 中国青头潜鸭保护网络构建研讨会 ” 在北京林业大学召开。来自国家林业局、全国鸟类环志中心、北京林业大学、世界自然基金会、河北省林业厅、武汉市林业局、九江市林业局，以及青头潜鸭主要繁殖地、自然保护区和观鸟会等 20 余家单位的专家和代表参加了会议。各位代表围绕青头潜鸭的分布、栖息地及保护、中国青头潜鸭保护行动计划等方面进行了充分的交流和研讨。

会议由 “ 东亚 - 澳大利西亚迁飞伙伴关系（EAAFP）青头潜鸭工作组 ” 组长丁长青教授主持。国家林业局保护司张德辉处长、全国鸟类环志中心陆军主任，以及北京林业大学自然保护区学院雷光春院长分别致辞。

青头潜鸭是世界极危物种（CR），据 IUCN 红色名录（2017）评估，其成熟个体数量不足 700 只且呈明显的下降趋势。据文献记载，青头潜鸭繁殖于东北亚地区（中国东北部、俄罗斯东南部以及蒙古东部和朝鲜北部），经中国中东部，迁徙至中国南部及东南亚各国越冬。由于对这一极危物种的生活史及生态需求研究甚少，加之近年在其历史繁殖区已鲜有记录，青头潜鸭及其保护状况受到国内外高度关注，因此国家林业局保护司委托 “ 中国雁鸭类保护与监测网络 ” 成立了 “ 中国青头潜鸭保护工作组 ”，开展对这一物种的调查、监测和保护工作。

本次会议旨在交流国内青头潜鸭分布与保护现状，研讨 “ 工作组 ” 和保护网络的构建形式，商讨优先开展的工作内容。会上共有 8 位代表做了报告：1. 北京林业大学丁长青：全球青头潜鸭分布、数量与保护现状；2. 吉林向海国家级自然保护区李连山：吉林向海保护区青头潜鸭的分布及栖息地现状；3. 河北衡水湖国家级自然保护区李彩霞：河北衡水湖青头潜鸭繁殖地及其保护；4. 河南观鸟会李振中：河南省青头潜鸭繁殖及越冬现状；5. 曲阜师范大学观鸟协会高晓冬：山东省济宁市青头潜鸭种群监测及保护现状；6. 北京林业大学吴岚：国内青头潜鸭分布与种群现状；7. 湖北省武汉市园林和林业局苏玉娟：武汉地区青头潜鸭的分布、繁殖生态学研究及保护工作；8. 全国鸟类环志中心张国钢：EAAFP 青头潜鸭保护行动计划。

大会报告之后，各位代表就 “ 中国青头潜鸭保护网络 ” 构建和《中国青头潜鸭保护行动计划》进行了深入研讨。

本次会议的召开为我国青头潜鸭保护与监测工作提供了良好平台。希望各位鸟类学界同仁关注青头潜鸭，关注微信公众号 “ 青头潜鸭 ”，加强信息交流，提高这一世界极危物种的保护监测成效。

数量评估来源：http://www.iucnredlist.org/details/22680384/0；

EAAFP 青头潜鸭工作组：http://www.eaaflyway.net/our-activities/task-forces/baers-pochard-task-force/

（北京林业大学：吴海峰 叶元兴 丁长青）

第三届中日韩朱鹮保护研讨会在日本召开

朱鹮（*Nipponia nippon*）是东亚特有的濒危物种，在中日韩三国广受关注。为了更好地交流研究进展，促进保护合作，中日韩三国政府制定了定期轮流召开朱鹮保护研讨会议的机制。2016 年 12 月 13—14 日，第三届中日韩朱鹮保护研讨会在日本新泻市召开，包括我国 4 位代表在内的 50 余人参会。研讨会中，日本代表就日本朱鹮的历史状况、再引入种群生态、遗传多样性等方面进行了报告。日本目前朱鹮种群数量约 400 只，再引入进展顺利，但其种群遗传多样性较中国种群显著较低，希望引入更多中国个体进行改善。韩国代表介绍了其朱鹮种群的现状及未来保护规划。近年来韩国采取饲养朱鹮多产卵的措施，促使其种群数量快速增长至 170 余只，并计划于 2017 年开展再引入工作。全国鸟类环志中心刘冬平博士介绍了中国朱鹮的保护进展。我国通过 30 余年的不懈努力，探索了一套极小种群野生动物的保护措施，成功地拯救了这一极危物种，并提供种源帮助日本和韩国重建了种群。目前我国洋县的野生种群数量超过 1,500 只，在陕西、河南和浙江等省的 5 个地点开展了再引入工作，且拥有 7 个人工饲养种群。在讨论中，三国学者及政府官员重点探讨了朱鹮遗传多样性的改善及未来朱鹮保护的合作问题。

会后与会代表前往日本朱鹮的再引入地点佐渡岛，考察了朱鹮资料馆和饲养中心，并对野外个体的觅食状况进行了观察。第四届中日韩朱鹮保护研讨会拟于 2017 年在韩国举行。

（全国鸟类环志中心：刘冬平）

我分会会员参加第五届世界生态高峰会

2016 年 8 月 29 日—9 月 1 日，第五届世界生态高峰会（5th International EcoSummit 2016）在法国蒙彼利埃（Montpellier）成功召开。本次会议由法国科学院与法国农科院承办，来自全球 70 多个国家的 1,500 多名专家学者参加了此次会议。我分会会员积极参加了此次峰会并组织了专题学术研讨会，其中包括广东省生物资源应用研究所（暨华南濒危动物研究所）的邹发生研究员、张强副研究员，以及广西大学的 Eben Goodale 教授、古昊研究助理。

本次峰会主题为“生态可持续发展”，主要关注生态科学理论和应用研究的整合，并依据生态学原理，对环境、经济、政策、社会、文化等因素之间的相互作用关系进行生态学的辨识、规划和管理。会议目的是推动人类对生态系统复杂性的理解，为解决可持续发展领域中急待解决的环境问题提供科学基础。会议学术交流形式主要包括：11 个大会主题报告、94 个专题学术研讨会，各种形式的口头发言、墙报展示及晚间学术活动。Elsevier 出版社的 10 多个生态学相关杂志将从此次会议中选择论文出版专刊。

会议期间，广西大学 Eben Goodale 教授组织了“鸟类混种群整合研究对群落保护的重要作用”专题研讨会，广东省生物资源应用研究所邹发生研究员作 “Targeting nuclear species in mixed species flocks: An efficiency conservation pathway for the conservation of forest bird communities” 报告，其他学者均作口头报告及墙报展示。会后，参加本专题的各国科研人员 10 余人又组织周边会议，对鸟类混种群保护方面的全球数据规范采集、基金申请、论文写作等内容进行了深入的讨论，这对今后各方的学术交流与项目合作起到重要的促进作用。

（广东省生物资源应用研究所：邹发生）

青头潜鸭 (*Aythya baeri*) 在中国的近期分布

青头潜鸭 (*Aythya baeri*) 曾广泛分布于从东北亚到东南亚并印度次大陆的广大地区，20 世纪 90 年代中期，因其数量明显下降而被 IUCN 视为易危物种 [VU]，2008 年被提升为濒危物种 [EN]、2012 年再升至极危物种 [CR]。

随着青头潜鸭受胁等级的不断提高，其状况也受到更多关注。2011 年以来，青头潜鸭在中国的目击记录出现于：黑龙江、吉林、辽宁、北京、天津、河北、河南、山东、陕西、安徽、湖南、湖北、江西、江苏、浙江、四川、云南、香港、台湾等省区。

近期，对中国境内青头潜鸭的两次最大目击记录为：

1) 2015 年 4 月初，我们在黑龙江省林甸、泰康一带的芦苇沼泽中累计记录到 5 群、约 200 只青头潜鸭个体栖于融冰与水的结合带。

2) 2016 年 3 月上旬，我们与英国资深观鸟人 Christophe Heard 在江西九江附近湖泊短时间即见到至少 150 只以上的青头潜鸭个体；3 月中旬在同一地点 3 日内于数个湖泊中共计数到 200 余只；其后，于 2016 年 6 月 9 日，我们又与陕西动物研究所肖红先生途经九江，在该地域内一处面积不足 0.5 km^2 的池塘边仅 10 分钟内即见到有 6 只青头潜鸭（1 对 +1 群 4 只）从他处飞落至该池塘中。

我们认为，尽管青头潜鸭被视为极危物种，但其在中国境内的现今分布范围与历史分布相比似并无明显变化。

（北京：郭玉民 闻丞 何芬奇；江西：林剑声）

肉垂麦鸡指名亚种（*Vanellus indicus indicus*）—— 中国鸟类亚种新记录

2016 年 7 月 13 日，新疆喀什地区塔什库尔干县野生动物保护站职工嘎瓦尔夏及其同事在瓦罕走廊（37°00′N，75°00′E，海拔约 4,300 m）例行野保作业，当行进到明铁盖罗布盖子沟河滩草甸时拍摄到 1 只肉垂麦鸡。经过图片对照，确定为肉垂麦鸡的指名亚种（*Vanellus indicus indicus*），为中国鸟类亚种分布新纪录。

根据杨岚等（1995）编写的《云南鸟类志》（上卷）记述，肉垂麦鸡国内仅见于云南省，为留鸟，系云南亚种（*Vanellus indicus atronuchalis*），其头部、后颈、两颊、颏、喉和胸黑色；后颈的下缘具白色领环，眼后的白斑较小，不与腹部的白色贯通。而在新疆拍摄到的肉垂麦鸡，耳后或眼后的白斑宽阔，与腹部白色贯通（见照片），应该是指名亚种（*Vanellus indicus indicus*），此特征在二亚种间区别明显（肉垂麦鸡照片为嘎瓦尔夏摄）。

（新疆生态与地理研究所：马鸣）

白颈长尾雉和白鹇在江苏的新发现

自 2016 年 3 月起，南京师范大学和江苏省林业科学研究院利用红外相机在江苏无锡宜兴林场和溧阳龙潭林场监测陆生野生动物。从收回的数据看，我们发现在两个林场多个监测点上拍摄到国家 I 级重点保护鸟类白颈长尾雉（*Syrmaticus ellioti*）和国家 II 级重点保护鸟类白鹇（*Lophura nycthemera*）的照片和视频。这是首次在江苏省境内拍摄到这两种雉类。查阅《中国雉类》(郑光美，2015) 及其他相关资料并经北京师范大学张正旺教授、南京林业大学鲁长虎等专家鉴定，认定白颈长尾雉和白鹇为江苏省鸟类的新纪录。此次发现是江苏省第二次陆生野生动物调查的重要成果，对进一步摸清江苏省的野生动物资源奠定了基础，对研究其物种分布的演化具有重要意义。关于江苏省白颈长尾雉和白鹇的种群数量和分布仍有待于进一步调查。

（红外自动照相机拍摄到的白颈长尾雉）

（江苏省林科院：丁晶晶；
南京师范大学：常青）

四川山鹛鸽独特的孵卵行为及胚胎耐受低温研究

温度对鸟类的胚胎发育具有深刻影响。单性孵卵者经常面临孵卵与觅食的直接冲突。对绝大多数的鸟类而言，适宜的孵化温度是35.5~38.5℃，胚胎发育在26℃（生理零度）以下往往会受到抑制，甚至死亡。为了避免胚胎温度低于生理零度，寒冷地区的鸟类往往采取多次短时间离巢的觅食策略，例如，在甘肃莲花山，孵卵期间斑尾榛鸡（*Bonasa sewerzowi*）每天离巢4~7次，平均每次离巢时间17.6 min。我们在四川老君山国家级自然保护区，发现四川山鹛鸽（*Arborophila rufipectus*）的孵卵行为非常独特，该鸟由雌鸟单独孵卵，每天离巢一次，即早晨07:36（± 50 min）离巢，中午12:06（± 70 min）归巢，离巢时间长达4.5 h。在这期间，卵温低于26℃的时间达4.2 h。而其孵化成功率却较高（88.4%），表明四川山鹛鸽胚胎具有很强的耐受低温能力。研究发现：四川山鹛鸽在应对人类活动干扰及恶劣天气时，会显著延长离巢时间。未来研究有待于进一步查明四川山鹛鸽这一奇特孵卵行为的生态驱动因子，以及弄清其胚胎耐受低温的生理基础与分子机制。该研究已于2017年1月2日在*Journal of Ornithology*在线发表。

（四川：付义强 戴波 文陇英 陈本平；英国：Simon D. Dowell；北京：张正旺）

树麻雀体型的地理变化及其与气候因子的关系

动物受栖息地环境条件的影响，同一物种的体型在不同种群间可能存在显著差异。“贝格曼定律”认为，环境温度条件对动物体型具有重要作用。除温度外，有研究表明其它环境和气候因素对动物的体型亦有显著影响。项目组以国家动物博物馆的馆藏树麻雀（*Passer montanus*）标本为研究对象，探讨了体重和翅长沿海拔和纬度梯度的变化规律，及其与栖息地气候因子（年均温度、气压、风速、日照时数、降水量和相对湿度）的关系。树麻雀的体重和翅长随海拔升高而增加，且体重与环境温度呈负相关，说明树麻雀体型变化遵循贝格曼定律。然而，体重和翅长与纬度无明显相关性，表明温度并不是影响体型变化的唯一因素，其它气候因子对体重和翅长亦具有更重要影响。气压对体重和翅长具有重要影响，且与体重和翅长呈负相关，反映高海拔低氧条件下鸟类飞行和代谢器官有增大的趋势；日照时数也是解释树麻雀体型的重要变量，与体重和翅长呈正相关，这可能与长日照提高食物的可获得性有关；相对湿度和降水量与体重和翅长呈负相关，暗示树麻雀体型增大亦可能与在干旱环境中减少水分散失有关；此外，风速还是预测雄鸟翅长的重要变量，且雄鸟翅长显著大于雌鸟，说明雄鸟可能在大风环境中较雌鸟具有更高的飞行效率，对于减少雄鸟与繁殖活动的相关能量消耗。研究结果表明，尽管树麻雀体重和翅长呈现出了一致的地理变化规律，但影响这两个体型指标的潜在气候因子及作用强度却不尽相同；树麻雀体型的地理变化不能简单地归结为热量调节，维持高效飞行、保持食物供应和水分平衡均可能是潜在的选择压力。

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不同海拔高度树麻雀飞行能力的比较研究

低温、低空气密度和低氧分压是高原环境的主要特征，这些因素均会对鸟类的飞行能力产生限制性影响。Altshuler and Dudley

(2003, 2004) 从种间水平深入分析了不同海拔的蜂鸟与飞行有关的形态学指标和负重能力等因素变化，但缺少以同一物种为对象从种群水平分析鸟类的飞行能力随海拔梯度的变化特征。我们以河北石家庄（80 m, 低海拔)、河北张北县（1,400 m，中海拔）和青海共和县（3,230 m，高海拔）的常见小型雀形目鸟类——树麻雀（*Passer montanus*）为对象，通过比较其体重、翅长、翅形、翅膀面积、胸肌重量、心脏和肺的重量等形态学指标，振翅频率、振幅、最大负重等飞行能力指标，探讨其形态学特征和飞行能力沿海拔高度的变化情况。结果发现，高海拔树麻雀较中、低海拔种群翅膀更长、更圆、面积更大，心脏和肺的相对重量也更大，但胸肌相对重量却无海拔差异。树麻雀单位体重的最大负重随海拔升高而下降，而单位翅膀面积的最大负重并无显著差异。因此，树麻雀的飞行能力随海拔的升高有降低的趋势，而它们通过增加心、肺器官的重量弥补高海拔低氧和低空气密度境对其运动能力的限制。鉴于最大负重能力能反映鸟类水平飞行时的灵活性和垂直飞行时的敏捷性，因此分布于不同海拔的树麻雀在起飞时可能具有不同的力学特征，这些差异进而会影响鸟类逃逸飞行时的行为方式。

本研究作为封面文章发表在 *Journal of Experimental Biology* 上（2016, 219: 3642-3648)。

（河北：孙砚峰 吴跃峰 李东明；北京：雷富民；美国：Robert Dudley）

阿尔泰山边境铁丝网对鸟类的危害

阿尔泰山拥有丰富的鸟类资源。2015—2016 年的调查显示，共有 21 目 61 科 171 属，约 350 种，占新疆鸟类的 77.4%，全国鸟类的 28.1%。面积 11.79 万 km² 的阿勒泰地区，拥有多样化和独特的自然景观，为鸟类的生存、繁衍提供了良好的生存条件，同时也成为鸟类迁徙的重要通道和停留地（驿站)。每年 4 月至 5 月，大批的候鸟从南方飞到阿勒泰地区，如福海县乌伦古湖、布尔津县喀纳斯湖和富蕴县可可托海湿地，在此停留 10~30 天，补充能量后大部分鸟儿继续北上，飞往西伯利亚或者北极地区繁育后代。

新疆阿勒泰地区与哈萨克斯坦、俄罗斯、蒙古为邻，国境线长达 1,205 km。近年来，阿尔泰山新建的铁丝网逐渐加高和加密，高度已经达到 2.8~3.0 m，两侧增加了滚网，滚网直径 0.75~0.89 m，密布锋利的刀片（见照片)。刚开始我们认为边境铁丝网只对兽类存在影响，对鸟类可能危害不大。但是，通过多次野外考察，项目组发现很多在边境地区活动的地栖鸟类和夜行性鸟类，都很容易受到铁丝网的伤害。根据我们的统计结果，阿尔泰山地区边境铁丝网上所挂的死鸟达 9 目 13 科，约 58 种，占阿勒泰地区鸟类种数的 16.6%。我们在中蒙边境铁丝网上记录到的鸟类有灰雁、针尾鸭、斑翅山鹑等（表 1)，许多鸟类属于国家重点保护动物或者当地特有种，也是国际《保护野生动物迁徙物种公约》（CMS）中保护的鸟类。

表 1 受边境铁丝网影响的大型陆栖鸟类（包括夜行性鸟类)

目	记录种类	受威胁种数	占阿勒泰鸟类比例
鹳鹳目	?	2	0.57%
鹳形目	鹭、夜鹭、琵鹭	3	0.86%
雁形目	灰雁、针尾鸭	12	3.42%
隼形目	?	10	2.86%
鸡形目	鹌鹑、斑翅山鹑	9	2.57%
鹤形目	灰鹤、大鸨	12	3.42%
沙鸡目	毛腿沙鸡	2	0.57%
鸮形目	雕鸮	7	2.00%
夜鹰目	欧夜鹰	1	0.29%
总计		58	16.56%

斑翅山鹑（马鸣 摄）

灰雁（马鸣 摄）

边境铁丝网——新的长城，高度已经达到 2.8~3.0 m（马鸣 摄）

在边境铁丝网上架设红外相机（马鸣 摄）

针尾鸭（马鸣 摄）

天罗地网，插翅难飞（马鸣 摄）

（中国科学院新疆生态与地理研究所：吴道宁 马鸣）

卫星跟踪揭示鄂尔多斯蓑羽鹤环形迁徙

蓑羽鹤 (*Anthropoides virgo*) 在我国中北部内蒙古自治区鄂尔多斯、乌梁素海和宁夏自治区早已有繁殖报道，而在 Paul Johnsgard 所著之《世界鹤类》(1983) 一书中，认为在这一区域内繁殖的蓑羽鹤群体独立地越冬于缅甸东北部和我国云南西部澜沧江以西的临沧地区。

由于鄂尔多斯高原上的遗鸥 (*Larus relictus*) 重要繁殖地桃力庙 – 阿拉善湾海子 [简称桃 – 阿海子，为全球 No. 1148 国际重要湿地] 自本世纪初以来逐渐干涸，碱蓬 (*Suaeda*) 群落大面积发育，使得该地点近年来成为蓑羽鹤的繁殖地和夏候鸟群的栖居地。2015 年 7 月间，我们在桃 – 阿海子及周边地带先后捕捉到 5 只成体蓑羽鹤，对其进行环志并佩戴中国湖南研制的 HQBP3622 型 GPS-GSM 跟踪器后安全放飞。

在佩戴 GPS-GSM 跟踪器的 5 只成体蓑

羽鹤中，1 只（编号为 DC01 之个体）据判于 9 月 18 日死亡，其尸体随后在鄂尔多斯西部鄂托克旗的木凯淖尔镇小湖村附近沙地中被找到，该地点为桃 – 阿海子以西偏南方向约 120 km。尸检结果表明该个体死于外力（推测曾遭受猛禽攻击)。

其余 4 只个体（编号分别为 DC02，DC03，DC04 和 DC05）于 2015 年 9 月 22 日至 10 月 5 日间先后西迁，飞出鄂尔多斯后均首取宁夏中卫市城西的黄河河道夜栖一晚，随后越甘肃入青海，在乌兰县境内茶卡盐湖夜栖 1~2 晚，然后直飞西藏安多县。编号 DC05 的蓑羽鹤个体在西藏安多西北约 70 km 处信号消失，此后再无信息传回。

不断发送讯号的那 3 只蓑羽鹤分别于 9 月 30 日和 10 月 4 日、9 日飞抵西藏喜马拉雅山北麓的仲巴县，夜栖于海拔 4,500~5,100 m 处，并分别于次日飞越喜马拉雅直抵印度恒河（Ganges R.）上游，夜栖于海拔约 100 m 的恒河河道附近。10 月 3 日—14 日，此 3 只蓑羽鹤先后抵达印度西部拉贾斯坦邦 (Rajasthan)。至此，历时 10~13 天，完成其行程约 4,650 km 的秋季迁徙历程。

上述 3 只蓑羽鹤个体春季迁飞的启动时间以其编号顺序依次为 2016 年 3 月 17 日，4 月 5 日和 3 月 25 日。它们并未沿秋季迁徙路线返回，而是首先向西北方向取巴基斯坦，跨印度河（Indus R.）河谷后入阿富汗，飞越兴都库什山脉（Hindu Kush)，在乌兹别克斯坦的艾达尔 [库尔] 湖（Aydar Kol Lake）附近作 9 日、13 日和 3 日的停歇。此后，DC02 和 DC03 个体进入哈萨克斯坦南部，沿哈萨克斯坦和吉尔吉斯坦边界地区的天山山脉北麓向东迁飞，分别于 4 月 10 日和 23 日溯伊犁河河谷而由哈萨克斯坦进入中国新疆，继而沿天山北麓一路东飞，入内蒙古境内后穿越巴丹吉林沙漠和乌兰布和沙漠，于 4 月 21 和 30 日相继返回鄂尔多斯的桃 – 阿海子。个体 DC04 则滞留在哈萨克斯坦中南部，游荡至 5 月 15 日，后朝东北方向迁飞，于 5 月 19 日取道中国新疆哈纳斯保护区进入蒙古国，最后于 5 月 20 日抵达蒙古国巴彦洪戈尔（Bayankhongor）省开始其夏季居留。此 3 只个体之春季迁徙分别历经 36、26 和 57 天，行程约 6,590~6,670 km。

查阅《云南鸟类志》，直到上个世纪 90 年代中期，在云南并无蓑羽鹤分布记录。本世纪初始有报道称蓑羽鹤见于云南东北部。虽然繁殖于东亚和中亚地区的大部分蓑羽鹤个体越冬于印度西部的古吉拉特邦（Gujarat）和拉贾斯坦邦等地已多有报道，但我们却未能查找到 Johnsgard 之《世界鹤类》一书中提出鄂尔多斯及周边地带的蓑羽鹤群体独立越冬于滇缅交界地带这一说法的依据及出处。

根据所跟踪的鄂尔多斯蓑羽鹤群体中那几只个体所发送回的数据，表明其迁徙路线并不涉及滇缅地区，且其秋 – 春的迁徙线路全然不同，构成了一个近乎环状的迁飞模式，而这确为以往所不知。无论如何，对鄂尔多斯蓑羽鹤进行卫星跟踪的研究刚刚开始，今后有望提供更多数据信息。而东北亚地区之蓑羽鹤其它群体的迁徙是否也会循环形路线进行，有待进一步揭示。

（北京：郭玉民 何芬奇）

关于寻找一只携带 GPS/GSM Tag 发射器的猎隼的报告

2016 年 12 月，我收到来自保加利亚和俄罗斯猛禽专家的求援信，打听一只携带发射器（GPS/GSM tag，彩色环志号 D310）的猎隼的生存与失踪情况。

这只叫“丘雷木”（Chulym）的雄猎隼从 10 月中旬由俄罗斯进入新疆，就一直在克拉玛依、石河子、乌鲁木齐附近活动。全部迁徙信息见俄罗斯猛禽网站：http://rrrch.ru/en/migration/sakers2016。最近，它出现了异常，活动停止在古尔班通古特沙漠的南缘。我们很快得到了“丘雷木”的准确位置

（44.994641°N，85.967712°E），大概在莫索湾附近。新疆观鸟会徐捷等人第一时间赶到现场，在近一尺厚深的雪地里找到了丘雷木的尸体。它仰面躺在雪地上，旁边是水泥电线杆。它的一条右腿丢失了，喙部、体羽、左肩外侧、右腿伤口处都有电击烧焦的痕迹。左腿下还握有一只沙鼠。可能正在吃沙鼠时，被电击而亡。背部的太阳能发射器完好无损，看上去太阳能板比较大（见照片）。

从网站资料获悉，2016 年俄方一共环志 10 只猎隼，现在剩下 3 只，死亡率或丢失率高达 70%。据徐捷介绍，2013 年 11 月初，曾在准噶尔盆地遇见 400 多只猎隼，数量非常大（2 小时内观测），活动在电线杆上、土堆上或天空中。可见新疆是北方猎隼的重要越冬地。

电击现场（徐捷 摄）

新疆天山越冬的猎隼（马鸣 摄）

猎隼嘴部的电击痕迹（徐捷 摄）

猎隼握着一只沙鼠，携带有橘红色脚环，环志号 D310（徐捷 摄）

卫星跟踪 10 只猎隼在中亚的活动轨迹（2016 年 8—11 月）

猎隼背部的发射器（太阳能板）（徐捷 摄）

（中国科学院新疆生态与地理研究所：马鸣 徐捷；匈牙利：Mátyás Prommer）

云南纳帕海初冬水鸟调查

2016 年 12 月上旬，全国沿海水鸟同步调查项目组的部分志愿者在云南香格里拉纳帕海开碰头会时，利用白天时间对纳帕海的水鸟进行了直接计数调查。6 日及 7 日调查队员全部抵达，分成两队分别驾车环湖一周进行调查，调查结果以这两日的为准。调查点除了环湖公路外，还有北部高山植物园停车场（坐标 27.896249°N, 99.639301°E）及中南部依日村附近的小山头（坐标 27.870531°N, 99.661102°E）等制高点。两队各自独立控制其调查节奏，于每日调查结束后统计结果。调查的两日及前后数日天气晴朗，温度较低，能见度极高且扰流并不严重。风力不大，湖面几乎没有风浪。调查到的鸟种见表 2（总计 10 科 37 种 3 万余只）：

表 **2** 云南纳帕海初冬水鸟调查统计

序号	鸟种	学名	种群数量 1%（中亚 / 东亚澳）	IUCN 红色名录等级	数量	备注
1	短嘴豆雁	*Anser serrirostris*	1,100	LC	4	
2	灰雁	*Anser anser*	250/	LC	7	
3	斑头雁	*Anser indicus*	560/	LC	**2,600**	
4	赤麻鸭	*Tadorna ferruginea*	500/710	LC	**2,005**	
5	翘鼻麻鸭	*Tadorna tadorna*	1,000/1,300	LC	121	
6	赤膀鸭	*Anas strepera*	3,000/7,100	LC	1,250	
7	罗纹鸭	*Anas falcata*	830	NT	1	
8	赤颈鸭	*Anas penelope*	2,500/7,100	LC	380	
9	绿头鸭	*Anas platyrhynchos*	750/15,000	LC	**1,200**	
10	斑嘴鸭	*Anas zonorhyncha*	11,300	LC	63	
11	琵嘴鸭	*Anas clypeata*	7,100/5,000	LC	63	
12	针尾鸭	*Anas acuta*	20,000/2,400	LC	600	
13	绿翅鸭	*Anas crecca*	4,000/7,700	LC	800	
14	赤嘴潜鸭	*Netta rufina*	1,000/-	LC	41	
15	红头潜鸭	*Aythya ferina*	3,200/3,000	VU	2,445	12 月 6 日
16	白眼潜鸭	*Aythya nyroca*	1,000/1,000	NT	467	
17	凤头潜鸭	*Aythya fuligula*	3,900/2,400	LC	176	
18	白秋沙鸭	*Mergellus albellus*	-/250	LC	2	
19	普通秋沙鸭	*Mergus merganser*	50/750	LC	**651**	
20	黑颈鹤	*Grus nigricollis*	100/80	VU	**280**	
21	黑水鸡	*Gallinula chloropus*	---------	LC	2	
22	骨顶鸡	*Fulica atra*	-/20,000	LC	17,031	
23	矶鹬	*Actitis hypoleucos*	710/500	LC	2	
24	凤头麦鸡	*Vanellus vanellus*	250/10,000	LC	**600**	
25	银鸥	*Larus argentatus*	---------	LC	5	
26	渔鸥	*Ichthyaetus ichthyaetus*	1,000/-	LC	15	
27	棕头鸥	*Chroicocephalus brunnicephalus*	1,400/1,500	LC	100	
28	红嘴鸥	*Chroicocephalus novaehollandiae*	10,000/20,000	LC	66	
29	小鸊鹈	*Tachybaptus ruficollis*	10,000	LC	70	
30	凤头鸊鹈	*Podiceps cristatus*	250/350	LC	151	
31	黑颈鸊鹈	*Podiceps nigricollis*	250/1,000	LC	30	
32	普通鸬鹚	*Phalacrocorax carbo*	-/1,000	LC	175	
33	苍鹭	*Ardea cinerea*	-/10,000	LC	15	
34	大白鹭	*Ardea alba*	-/1,000	LC	26	
35	池鹭	*Ardeola bacchus*	-/10,000	LC	5	
36	夜鹭	*Nycticorax nycticorax*	-/10,000	LC	1	
37	黑鹳	*Ciconia nigra*	100/1	LC	**231**	

另外还调查到 3 种湿地依赖鸟种见表 3:

表 **3** 云南纳帕海初冬 3 种湿地依赖鸟种

序号	鸟种	学名	种群数量 1%（中亚 / 东亚澳）	IUCN 红色名录等级	数量	备注
1	普通翠鸟	*Alcedo atthis*	—	LC	1	
2	玉带海雕	*Haliaeetus leucoryphus*	—	VU	1	
3	白尾海雕	*Haliaeetus albicilla*	—	LC	40	

注：据Information Sheet on Ramsar Wetlands (RIS)-2009-2012 version, 纳帕海位于中亚与东亚-澳大利西亚迁飞路线的交接地带，因此表中将两条路线的1%种群数量分别列出，并将数量超过其中一者的加粗。

在调查到的 37 种水鸟中，有 7 种的数量达到了其种群数量的 1%，有 2 种为受威胁鸟类（IUCN 红色名录等级 VU、EN 和 CR）。湿地依赖鸟种中，有 1 种为受威胁鸟类。另有 2 只草原雕（EN）被记录到。

12 月 5 日下午章麟独自在纳帕村步行计数到红头潜鸭 3,600 余只,达到其种群数量 1% 的标准。6 日及 7 日红头潜鸭也大多在此深水区域活动，而在湖区南部草滩暴露的地区则较少。但这两日仅于 6 日调查到 2,400 余只及 7 日 1,100 余只。据此我们推测该期间部分红头潜鸭在迁徙经过纳帕海而非稳定越冬。

至于其它鸟种，在 6 日及 7 日的调查中，两日结果的差异主要来自于日间鸟类活动区域的改变。我们未观察到明显的证据表明它们在迁徙中，因而将其做为越冬鸟对待。某些鸟种如斑头雁、黑颈鹤、赤麻鸭、凤头麦鸡等，由于其喜欢活动的区域常位于离公路较远的草滩及村庄中，难于靠驾车在有限的时间内覆盖到，因而实际数量肯定高于调查到的数量。其中凤头麦鸡由于体型较小，相信调查到的数量与实际数量有较大差距。

此次调查当中记录到一只相信是红头潜鸭与白眼潜鸭的杂交个体，与大群红头潜鸭及少量白眼潜鸭活动于同一片区域。其体型大小近似于红头潜鸭，头型隆起。远距离观察时明显区别于红头潜鸭雄鸟的特征是胸部非黑色而是栗红色，与头部颜色无对比，似白眼潜鸭雄鸟。其相似于红头潜鸭雄鸟的特征在于其浅灰白色的上体及下体。其它特征如白色的虹膜、深灰色的嘴、尾下的白色斑块等则异于红头潜鸭雄鸟而更似白眼潜鸭雄鸟，但嘴尖黑色面积较大则更似红头潜鸭雄鸟。

图中右上角为杂交个体

另外还于 12 月 7 日观察到一只带有彩色环志的成年黑颈鹤。其左胫部有上黄下红两个彩环，右胫部有一个红色彩环。经查该鸟由西南林业大学的刘强于 2009 年环志于纳帕海。

（全国沿海水鸟同步调查项目组：董江天 李静 韩永祥 倪光辉 王凤琴 章麟 张浩辉 张明 赵锷）

扎兰屯成吉思汗机场鸟类多样性与鸟击防范研究

2015 年 1—12 月，内蒙古大学研究人员采用样线法和固定半径样点法对内蒙古扎兰屯成吉思汗机场及其周边 8 km 范围内

的区域进行鸟类多样性调查。调查期间记录到鸟类 82 种，隶属于 15 目 31 科。根据对鸟类的群落结构分析：机场围界内春季的鸟类多样性指数（0.740）和均匀度指数（0.819）最高；冬季的优势度（0.683）最高；夏季的平均密度（2.826 ind/hm²）最高。机场围界外夏季湿地的多样性指数最高，为 1.576；冬季的草地均匀度指数最高，为 0.902；冬季的居民区优势度最高，为 2.113；春季的湿地平均密度最高，为 28.600 ind/hm²。本文在前人研究的基础上综合鸟类的体积、数量、出现次数、飞行高度、与机场的距离、出现的样带数以及是否集群 7 个因子对鸟类的危险值重新赋值并计算得出危险值。严重威胁鸟类有普通鸬鹚 (*Phalacrocorax carbo)*、麻雀 (*Passer montanus)*、赤麻鸭 (*Tadorna ferruginea)* 等 14 种。我们根据调查结果提出了不同季节，不同区域以及不同鸟种的针对性防范意见以及机场管理对策，为民航机场鸟击防范工作提供了重要的科学依据。

（内蒙古大学：赵焕乐 杨贵生 王彤 杨帆）

千岛湖鸟类的物种和功能多样性研究

因大坝建设而形成的陆桥岛屿成为研究生物多样性格局和群落构建机制的理想实验平台。由于物种具有不同的生态功能特征以及对生境变化的反应机制各不相同，同时从物种和功能角度研究生物多样性将能更好地理解群落的构建机制。本研究中我们基于千岛湖长期的鸟类群落监测数据分析了物种和功能 alpha 多样性、beta 多样性及其空间周转和嵌套组分的分布格局，并使用多重回归模型对岛屿参数进行分析。我们进一步使用随机化检验确定物种和功能多样性的相关性。

研究结果表明，千岛湖鸟类的物种和功能 alpha 多样性随岛屿面积增大而增大。物种嵌套组分随面积差异增大而增大，而周转组分随面积差异增大而减小，不过功能 beta 多样性的组分与岛屿面积差没有显著关系。通过对 beta 多样性的分解，我们发现总体物种和功能 beta 多样性较低。功能 beta 多样性由嵌套组分占主导，而物种 beta 多样性则由周转组分占主导。随机化检验表明不管是 alpha 还是 beta 水平，功能多样性与物种多样性均显著相关。该结果表明因环境过滤而导致的选择性灭绝过程是决定千岛湖鸟类物种和功能多样性的主要驱动机制。物种和功能 beta 多样性中周转和嵌套组分占有比例的截然不同表明同时从物种和功能角度研究群落构建机的重要性。

相关研究结果已经发表于 *Journal of Animal Ecology* (doi: 10.1111/1365-2656.12478) 和 *PLoS ONE* (doi: 10.1371/journal.pone.0127692).

（浙江大学：斯幸峰 丁平）

濒危鸟类棕头歌鸲的鸣声、分布及系统发育地位

棕头歌鸲（*Larvivora ruficeps*）是一种雀形目鹟科鸟类，雄鸟羽色艳丽、鸣唱婉转多变，仅在我国的陕西和四川等地有繁殖记录，越冬于东南亚。它的观测记录 (特别是在过境和越冬地区) 甚少，研究资料也极为稀缺，已被 IUCN 红色名录列为濒危（Endangered）级别。我们的研究主要从棕头歌鸲的鸣声、系统发育地位以及观测记录整理这三个方面出发，旨在为棕头歌鸲的研究和保护提供最基础的数据资料。

我们利用一号来自四川白河的棕头歌鸲血液样品，扩增了 Cyt*b*、LDH、Myo 和 ODC 四个基因位点，首次重建了整个 *Larvivora* 属的系统发育关系。结果表明，棕头歌鸲和红尾歌鸲的亲缘关系最近，并与琉球、日本、栗腹和蓝歌鸲共同构成 *Larvivora* 属。

我们收集了 *Larvivora* 属 6 种歌鸲的鸣唱

声，并测量和计算了其鸣唱的高低频率、频宽、曲长、音节数、鸣唱速率等特征值。特征值主成分分析和声谱图分析的结果均表明：棕头歌鸲的鸣声与琉球歌鸲最为相似，而红尾歌鸲的鸣声则与日本歌鸲北部繁殖的 *akahige* 亚种最为相似。我们推测，鸣声异同和亲缘关系远近上的“矛盾”之处可能是由于鸣声的平行演化而致。

自 Hartert 于 1905 年于陕西秦岭太白山首次描述棕头歌鸲后，陕西省就再无观测记录。国内自 1985 年至 2015 年，每年均有观测者在九寨沟地区或邻近的白河（2014、2015 年）、王朗自然保护区（1986 年）和黄龙寺自然保护区（1988 年）记录到繁殖的棕头歌鸲。而迁徙及越冬的国外记录仅 3 次：1963 年 3 月，马来西亚卡梅伦高地牛伦碧兰璋山；2012 年 11 月，柬埔寨金边；2014 年 4 月，马来西亚云顶高原。

棕头歌鸲 (*Larvivora ruficeps*), Pete Morris/Birdquest

摄于九寨沟

我们利用已知的繁殖地区分布点对棕头歌鸲进行了适宜栖息地的生态位模型预测。结果表明，棕头歌鸲的适宜栖息地为四川中北部、陕西南部、甘肃南部以及西藏东南部海拔 2,400~2,800 m 的山地林区。但棕头歌鸲的实际分布范围要远小于此预测分布。我们还需要更多地在潜在适宜分布区里进行深入调查。

更多信息参考：Zhao M, Alström P, Hu R, Zhao C, Hao Y, Lei F, Qu Y. 2017. Phylogenetic relationships, song and distribution of the endangered Rufous-headed Robin *Larvivora ruficeps*. Ibis 159: 204–216.

（北京：赵敏 胡若成 赵超 郝艳 雷富民 屈延华；瑞典：Per Alström）

中国西南山地鸟类多样性热点和避难地对气候变化的动态响应

中国西南山地是世界著名的鸟类多样性中心和特有化中心，位于东洋界和古北界的交汇地带。特殊的地理位置和地质历史使该地区成为亚洲南北物种迁徙扩散的一条重要的生物多样性通道，诸多研究表明，横断山地区具有明显的动物区系过渡特点。但长期以来，该地区生物通道的具体位置以及四川盆地和横断山对本地区生物地理格局的历史影响仍缺少深入研究。鸟类因具备飞行能力，其分布区对环境变化的响应迅速而敏感。

为了解该地区的鸟类多样性格局和研究气候变化对本地区生物多样性格局的影响，本研究利用 752 种繁殖鸟的大量标本数据和物种分布数据，运用多种模型分别模拟了古气候变化对该地区鸟类多样性分布格局的影响。研究发现，总体上特有鸟类比非特有鸟类分布海拔更高，西南山地当前的非特有鸟类物种丰富度在海拔 800~1800 m 之间最丰富，而特有鸟类的物种丰富度在海拔 2000~3000 m 之间最丰富。非特有鸟类的物种丰富度在横断山区南部和云贵高原最丰富，而特有鸟类的物种丰富度格局更向北移动，并且在四川盆地西缘的高山峡谷区形成一条明显的多样性通道。

气候模型模拟结果表明：当气候变暖时，物种往高海拔扩散横断山区能维持较高的鸟类多样性，山区成为了物种应对气候变暖的避难地，而四川盆地反而成为中高海拔物种扩散的地理隔离；而当气候变冷时，物种往低海拔扩散导致四川盆地的鸟类多样性显著

增加，四川盆地成为冰期本地区鸟类重要的避难地，而周围的山区反而又成为物种扩散的地理隔离。气候的周期性变化和西南山地特殊的地理位置（位于东洋 - 古北界之间）、地质构造（青藏高原 - 横断山 - 四川盆地）共同塑造了本地区独特的生物多样性格局。研究还表明，相比于气候变暖，冰期的寒冷气候更容易导致低海拔和四川盆地的物种出现局部灭绝（分布区南退）。

基于大量物种分布数据和模型模拟的研究结果首次表明：位于青藏高原和四川盆地之间的川西高山峡谷区是一条南北物种迁徙重要的生物多样性通道，是维系东洋界和古北界物种迁徙扩散的重要通道，也是本地区生物多样性在气候变化条件下的避难地和山地物种形成的地理隔离区。该地区是生物多样性保护和管理的关键区域，应引起研究的重视和关注。

（四川大学：吴永杰　冉江洪）

北京雨燕追踪研究新进展

2016 年 5 月 21 日，中国观鸟会在颐和园公园管理处紧密配合下，圆满完成了第 9 年的颐和园廓如亭北京雨燕环志，65 名中外志愿者参与了雨燕环志与回收。从凌晨 2:30 入园到 8:00 结束，共捕获普通雨燕（*Apus apus pekinensis*）124 只，其中 65 只为往年环志的回收个体，在 65 只往年环志回收个体中第一次回收个体为 45 只，二次回收个体为 14 个，三次回收 5 只，四次回收 1 只；58 只为今年新上环的个体。环志回收率 52.4%。

2016 年是使用定位器对北京雨燕开展追踪研究的第三年。从回收的数据统计显示，颐和园的北京雨燕迁徙路线的单程距离超过 1.6 万公里，到达非洲的纳米比亚及非洲南部等国家与地区越冬，全年迁徙距离约为 3.8 万公里，初步推算一只雨燕，其一生往返的旅程相当于地球到月球的距离。

在 2016 年回收的雨燕中，有 10 只（2014 年 3 只、2015 年 7 只）带光敏定位器的个体，又为 46 只雨燕分别佩戴了光敏定位器、GPS 追踪器和振子定位器等。新的定位器可以记录雨燕的飞停状况，能够帮助我们更加深入地掌握雨燕的迁徙规律及飞行情况。期待着 2017 年它们安全地返回北京，带回更多迁徙、越冬等生态信息。

此项目的合作单位还有：广州中山大学、比利时皇家自然科学研究所、英国雨燕保护行动、英国皇家鸟类学会、瑞典隆德大学、比利时动物园、观鸟北京（Terry）。

（中国观鸟会：赵欣如　付建平）

研究生论文选登

发冠卷尾繁殖策略及其适应性研究

鸟类的繁殖策略对个体的终生繁殖成效有重要的影响，进而可能会影响种群的动态以及物种进化方向。因此，对鸟类繁殖策略的研究一直是行为生态学和进化生态学的研究热点。由于个体通常所处的身体状态不同，所经历的环境不同，它们可能会根据自身身体状态决定其繁殖策略以适应不同环境，达到自身适合度最大化。本研究于 2010 年至 2015 年，在河南董寨国家级自然保护区，对广泛分布于亚洲东部和南部的中型雀形目卷尾科鸟类 —— 发冠卷尾（*Dicrurus hottentottus*）开展了系统的研究。通过考察繁殖时间、繁殖投入以及繁殖成效，探究个体如何根据自身身体状态选择最佳的繁殖策略来适应不同的生态环境。本论文的主要结果如下：

1. 发冠卷尾于 4 月下旬到达河南董寨国家级自然保护区，到达一周后开始占据领域并营巢繁殖，5 月下旬和 6 月上旬产卵，6 月雏鸟出壳，7 月上旬前后出飞。年繁殖一窝。双亲均参与筑巢、孵卵和育雏。窝卵数为 3~5

枚，多为 4 枚。孵化期约为 19 天，育雏期为 17 天左右。首次繁殖巢的成功率为 67.5%，繁殖失败多为育雏期雏鸟被天敌捕食。繁殖失败后有 18.3% 的繁殖对进行再次繁殖。雏鸟的初级性比和次级性比在种群水平上和个体水平上均无显著偏倚。有 9.28% 的雏鸟为婚外配后代，且婚外配后代并无种群水平上的性别偏倚。雌雄鸟均对领域和配偶具有较高的忠实度。雄鸟对领域的忠实度高于雌鸟，但雄鸟的出生扩散距离较雌鸟远。

2. 通过横向分析和纵向分析结合的方法研究了配偶维持和个体繁殖经验对发冠卷尾繁殖成效的影响。结果表明，维持较长时间原配偶关系的繁殖对并未出飞更多的雏鸟，或雏鸟的身体状态更好，而且并未比由至少有一只有繁殖经验个体新形成的配偶对出飞的雏鸟数更多或雏鸟身体状态更好。个体在与无繁殖经验的个体新形成配偶对后，尤其是雌鸟与无繁殖经验的雄鸟配对，出飞的雏鸟数降低。尽管窝卵数并未受配偶维持和个体繁殖经验的影响，含有无繁殖经验个体的繁殖对，卵或雏鸟的被捕食率更高。这可能是由于无繁殖经验的个体不能有效的抵御巢捕食。繁殖时间在维持配偶的第一年显著提前，但在第二年及以后并未提前。此外，雄鸟的繁殖经验决定繁殖时间，即由无繁殖经验的雄鸟组成的繁殖对繁殖晚。这表明，个体繁殖经验尤其是雄鸟繁殖经验在决定发冠卷尾繁殖表现中，比婚配关系更重要。

3. 发冠卷尾亲鸟所产生的雏鸟数随繁殖季节的推进而下降，而且这种趋势连续多年稳定。通过比较同一繁殖对在其繁殖早的年份与繁殖晚的年份出飞雏鸟数的差异，我们发现那些个体质量高的、在多年一直比种群平均产卵日产卵早的繁殖早的个体比那些繁殖晚的个体出飞雏鸟数更多。尽管繁殖早的个体与繁殖晚的个体在窝卵数上无显著差异，繁殖早的个体具有较高的卵存活到雏鸟出飞的比例。然而，同一繁殖对在其繁殖晚的年份所出飞的雏鸟数与其其他年份出飞的雏鸟数相似，而且这种模式在一直比种群平均产卵日产卵早的繁殖早的繁殖对和繁殖晚的繁殖对都有发现。因此，研究结果支持个体质量假说，而非环境质量假说。发冠卷尾的季节性繁殖成效下降，至少在维持原配偶的繁殖对中，是由于繁殖早的个体和繁殖晚的个体在身体质量上的差异所造成的。

4. 发冠卷尾在孵卵期的婚外配机会仅出现在其附近的邻居雌鸟里。本研究考察了雄鸟的亲代抚育差异是否受其自身性吸引力，区域内可受精雌鸟数，以及二者的交互作用的影响。研究结果显示，仅当有较多邻居处于可受精期时，更有可能取得婚外父权的跗跖较长的雄鸟，才会通过增加孵卵的间隔而非缩短每次孵卵的时间，而比性吸引力低的雄鸟孵卵少。雌鸟增加了孵卵投入从而部分补偿了其性吸引力高的配偶减少的孵卵投入，但仅能补偿 79%。因此，性吸引力高的发冠卷尾雄鸟仅在有更多的机会找到可交配对象时，才会减少亲代抚育。这表明了在研究个体性吸引力如何影响雄鸟对亲代抚育和寻求更多交配的最佳投入策略时，量化可获得交配机会的重要性。

5. 发冠卷尾在繁殖结束后，亲鸟会将巢拆除。由于多数未拆除的巢能够维持到第二个繁殖季，我们首次实验验证了拆巢行为是否是为了减少由于巢的提示作用所引起的第二年的巢址竞争。研究表明，倾向于第二年再次利用原巢址的繁殖成功的繁殖对，比繁殖失败的往往会更换巢址的繁殖对，更有可能拆巢，而且拆巢速度更快。放置在繁殖成功巢址上的实验加固巢会吸引巡查个体，并导致这些巢址在第二年的利用率更高。然而，实验加固巢的领域巢主在第二年的巢主更换率较低，且并未比自然拆除巢的领域巢址更高。此外，实验加固巢的巢主在第二年并未因可能的较高的巢址竞争，导致其产卵推迟或出飞雏鸟数减少。因此，研究结果部分支持巢址竞争假说。我们认为拆巢行为可能仅在种群内巢址竞争激烈时，才对发冠卷尾有

利。

（北京师范大学：吕磊；导师：张正旺 Jan Komdeur）

鸟类 Toll 受体分子进化模式研究

Toll 样受体家族 (Toll-like receptor multigene family，TLRs) 是先天性免疫系统重要的“特异性”成员，是连接先天性免疫系统和适应性免疫系统的桥梁。与病原体的直接接触的 TLRs 受到病原体的选择压力引起免疫系统的适应性进化。鸟类在白垩纪和早第三纪 (Cretaceous–Paleogene transition, K-Pg transition) 的适应性辐射进化 (adaptive radiation) 形成了现代鸟类在形态、生态和行为多样性，特别是不同的鸟类占据不同的生态位，免疫系统也在适应辐射的过程中对不同的生态环境做出适应性的变化，自然选择在免疫系统基因水平上留下选择的痕迹，对我们从微进化 (microevolution) 的角度增加对免疫系统理解起重要作用。微进化在时间和空间上的延伸积累形成了宏进化 (macroevolution) 过程，而系统发育比较分析 (Phylogenetic Comparative Methods, PCM) 通过控制系统发育信号使每个物种成为统计上独立的物种，来探索物种性状和进化事件之间的相关关系，以此获得大规模进化的格局和趋势。

新鸟亚纲 (Neornithes) 是现代鸟类系统进化树上的主干。研究以 TLRs 为代表的该类群先天性免疫系统的适应性进化将揭示免疫系统在适应性辐射进化的背景下在非模式生物中的微进化选择模式。同时以代表新鸟形态、分布、生活史不同的生态因子作为解释变量 (explanatory variables)，以 TLRs 各基因的 ω 值作为响应变量，研究 TLRs 的选择模式与各生态因子的相关关系。为此，本研究共收集新鸟亚纲 100 个物种的样品，覆盖新鸟亚纲的 38 个目。结果显示，新鸟亚纲的 TLRs 的胞外域由于生物功能的限制，免疫基因在分子水平上表现为负选择，但是在与病原体识别和结合的部位存在片段化多样性选择 (episodic diversifying selection)；这可能是一种病原体 - 宿主协同进化的方式。TLR1LA 和 TLR1LB 之间存在基因转换现象 (gene conversion)，是一种鸟类基因组简化的方式，亦可能是对飞行生活高能量消耗的适应。基因复制和基因转换以及由此产生的基因功能的分化是免疫基因重要的进化过程。系统发育比较分析结果表明，TLRs 的 ω 值，即量化选择强度的值，与物种幼鸟的发育模式、体重、迁徙和取食方式有关，晚成鸟、更大的体重、更长距离的迁徙以及在水中取食的种类，ω 值有升高的趋势，这暗示着鸟类在适应辐射中过程中，病原体对于宿主免疫基因的深刻影响。

鸭科 (Anatidae) 是新鸟亚纲基部支系雁形目 (Anseriformes) 的主要类群。该科的物种大多为全球性分布、具有长距离迁徙能力的水鸟，同时也是多种病原体 (如病毒和细菌) 的宿主，而成为动物疫病防控的重要类群。本研究继而以 TLR5 和 TLR7 为目标，研究鸭科鸟类免疫相关基因 TLRs 在种间水平的多态性和进化模式，进一步理解 TLRs 在种间水平的进化；以不同的生态因子作为解释变量，以 TLRs 各基因的 ω 值作为响应变量，研究鸭科鸟类 TLRs 的选择模式与各生态因子的相关关系。选择结果表明 TLR5 和 TLR7 在鸭科中多态性较低，选择模式也呈片段化多样性选择的特点。鸭科鸟类 TLR5 和 TLR7 的 ω 值与种类的取食方式和巢址的类型有关，而与迁徙的模式无关，反映了免疫基因可能与鸭雁类繁殖期的生活史和发育模式相关。

综上所述，本研究揭示了鸟类 TLRs 在高级阶元的分子进化模式，以及与选择强度相关的生态因子，较为系统地展示了 TLRs 作为重要的免疫基因与鸟类适应高级阶元分化的相关关系，为理解脊椎动物免疫系统的进化与功能提供了全新的视角。

（中山大学：张蛰春；导师：刘阳）

持久性有机污染物在大滨鹬和红腹滨鹬不同组织中的富集

持久性有机污染物（Persistent Organic Pollutants, POPs）是一类具有高毒性、难降解、亲脂性的天然的或人工合成的化合物。这类化合物具有较长的半衰期，可长期存在于土壤、沉积物、空气和生物体内。环境中的 POPs 可以通过食物网在不同营养级的生物体之间转移，并通过生物级联作用，对处于较高营养级的生物造成危害。POPs 中的一些化合物与生物体内某些激素的化学结构相似，可通过干扰激素的分泌对其生殖系统、神经系统以及受激素调控的一系列行为产生不利影响。

东亚 - 澳大利西亚候鸟迁徙路线上的迁徙鸻鹬类的种类和数量均居全球 8 大迁徙路线之首，但该迁徙路线上的鸻鹬类是目前全球数量下降最快的候鸟类群。大面积的栖息地丧失和退化被认为是造成鸟类种群数量下降的主要原因，恶化的栖息地环境也增加了鸟类暴露于污染环境中的风险。鸻鹬类主要以河口湿地和农田中的无脊椎动物为食，而这些区域中的 POPs 沉积含量较高，鸻鹬类易通过食物途径受到 POPs 的危害，基于 POPs 在全球范围内的广泛分布及其对生物存在的潜在威胁，了解 POPs 在鸻鹬类体内的富集情况，对监测这一迁徙路线上环境污染的现状，并制定相应的对策降低候鸟类群及其他生物所面临的环境污染风险具有重要意义。然而，目前仍缺乏 POPs 在迁徙鸻鹬类体内富集情况的相关研究。

本研究以东亚 - 澳大利西亚候鸟迁徙路线上的两种长距离迁徙鸻鹬类大滨鹬（*Calidris tenuirostris*）和红腹滨鹬（*C. canutus*）为研究对象，围绕环境中普遍存在的 POPs 在鸻鹬类不同组织中的富集程度，选择大滨鹬和红腹滨鹬的肌肉、脂肪以及不同年龄的大滨鹬个体的羽毛为样本，对多种污染物的含量进行了检测，并结合生活史周期等生态学特征，探讨了 POPs 可能对迁徙鸻鹬类产生的威胁。主要结论如下：

1）在检测的 19 种污染物中，大滨鹬的组织中有 10 种被检出，其中在大滨鹬的肌肉组织中平均残留量最高的污染物为 p,p'-DDE；而在大滨鹬的脂肪组织中硫丹硫酸酯和 / 或 p,p'- DDT 的平均残留量最高，其次为 p,p'- DDE；红腹滨鹬肌肉和脂肪组织中有 11 种 OCPs 被检出，其中残留量最高的均为 p,p'-DDE。狄氏剂只在红腹滨鹬的肌肉和脂肪中检出，硫丹 I 只在大滨鹬的肌肉组织中检出，但含量较低。POPs 在大滨鹬和红腹滨鹬的组织中的富集程度呈现出物种差异。

2）对每一样本在肌肉和脂肪中的污染物含量进行配对 t 检验，大滨鹬脂肪中的 α-HCH、硫丹硫酸酯和 / 或 p,p'- DDT 三种污染物含量显著高于肌肉中的含量；α-HCH 在红腹滨鹬脂肪中含量也显著高于肌肉组织中的含量。POPs 在脂肪组织中的含量高于肌肉组织可能是由于其具有亲脂性，因而更容易在脂肪组织中富集。

3）在大滨鹬的肌肉组织中，p,p'-DDE 的含量最高，且检出率为 100%。在雄性大滨鹬的肌肉组织中，有 11 种 OCPs 被检出，在雌性个体中，有 13 种 OCPs 被检出，但方差分析显示，大滨鹬肌肉组织中的 OCPs 含量并无显著的性别差异（$P > 0.05$）。本研究首次对鸻鹬类肌肉中污染物的沉积量与个体肌脂率之间的相关性进行了分析，Pearson 相关性检验结果显示，污染物含量与肌脂率呈显著负相关（$P < 0.05$），即瘦弱的个体有机污染物的沉积量更高。

4）羽毛样本的研究结果显示，共有 18 种污染物被检出，其中包含 6 种有机氯农药，5 种多溴联苯醚同系物和 7 种新型有机磷阻燃剂，所有多氯联苯同系物的含量均低于最低检出限。旧的羽毛中污染物的含量显著高于新的羽毛，说明羽毛中的污染物更多来源于外部环境，暴露于污染环境的时间越长，沉积含量越高。与肌肉组织和脂肪组织样本

的检测结果相同，p,p’-DDE 在羽毛样本中的检出率也为 100%。说明环境中仍普遍存在这类污染物。此外，羽毛中新型有机磷阻燃剂的含量高于有机氯农药和多溴联苯醚同系物，表明这一迁徙路线的环境中有机磷阻燃剂类污染物的含量较高。

综合以上结果，本研究表明持久性有机污染物可能是造成鸻鹬类种群数量下降的重要但被忽视的原因之一。本研究结果为进一步研究 POPs 对迁徙鸻鹬类产生的影响提供了参考依据。

（复旦大学：金欣；导师：马志军）

秦皇岛鸟类保护环志站 2016 年环志简报

秦皇岛市鸟类保护环志站春季于 3 月 27 日开始环志，6 月 13 日结束，历时 79 天，秋季环志于 9 月 1 日开始，12 月 2 日结束，历时 92 天。共环志鸟类 94 种 11,340 只。

环志站还承办了由全国鸟类环志中心主办的 2016 年一期春季鸟类培训班，在培训期间与来自瑞典和荷兰的鸟类专家进行了技术交流合作。在四月与瑞典鸟类专家布 - 伦纳特 - 彼得森先生和荷兰鸟类专家扬 - 维泽先生进行了为期三周的鸟类环志技术交流，并取得良好效果。

2016 年，环志站在以往工作的基础上继续在技术上寻求突破与提高，并有鸟种新发现，为黑喉岩鹨（*Prunella atrogularis*）。自 1992 年开展环志以来，截止 2016 年 12 月初，秦皇岛市环志站共环志 17 目 49 科 305 种 248,524 只。

今年环志的优势种为黄腰柳莺（*Phylloscopus proregulus*）1423 只、红胁蓝尾鸲（*Tarsiger cyanurus*）896 只、黄眉柳莺（*Phylloscopus inornatus*）1,929 只、灰头鹀（*Emberiza spodocephala*）722 只、小鹀（*Emberiza pusilla*）1,428 只。

2016 全年秦皇岛市环志的候鸟数量，非雀形目共环志了 4 目 4 科 9 种 57 只，仅占总环志量的 0.50%，而雀形目总计 15 科 84 种 11,283 只，占总环志量的 99.50%，其中莺科最多，环志了 21 种 4,987 只，占环志量的 43.98%；其次是燕雀科，17 种 3,130 只，占环志量的 27.60%；鹀科 13 种 1,177 只，占环志量的 10.38%；鸦雀科 1 种 637 只，占环志量的 5.61%；绣眼鸟科 2 种 342 只，占环志总量的 3.01%。

（秦皇岛市鸟类保护环志站：杨金光 杨忠文 王敬波）

2016 年冬季河南董寨鸟类环志简讯

2016 年 11 月 10 日至 26 日，河南董寨国家级自然保护区环志站组织环志员在凉亭和白云环志网络点开展冬季鸟类环志工作，历时 14 天共环志鸟类 524 只，隶属于 2 目 11 科 24 种。其中新捕获 2 目 11 科 24 种计 468 只；重捕 2 目 8 科 10 种计 56 只。

11 月 11 日和 14 日分别捕获归家鸟类黄喉鹀 2 只，环号为 B176-5268（2013 年 11 月 10 日第一次于该点环志，性别为 ♀），B210-1960（2015 年 12 月 3 日于该点环志、性别为 ♂）。

（董寨国家级自然保护区环志站）

2016 年老铁山环志站鸟类环志简讯

2016 年鸟类环志从 9 月 10 日开始，11 月 3 日结束，正式设网环志 54 天，共环志鸟类 42 种 2,139 只。2016 年共环志猛禽 6 种 47 只，占全年环志数量的 2.2%。安装 GPS 卫星定位跟踪器三只。环志数量最多一天是 10 月 29 日，环志 9 种 211 只，占环志总数的 9.9%。环志数量超过 100 只的种类有：红胁绣眼鸟（248）、黄喉鹀（417）、黄腹山雀（151）、红

胁蓝尾鸲（118）。

本地重捕 131 只，有归家 3 只。其中 2016 年 10 月 27 号重捕的环号为 B200-7080 的大山雀为我站 2015 年 10 月 30 日环志的；2016 年 10 月 27 号重捕的环号为 B182-0485 的黄喉鹀为我站 2014 年 10 月 29 日环志的；2016 年 10 月 27 号重捕的环号为 B200-1029 的黄喉鹀为我站 2015 年 10 月 28 日环志的；2016 年 10 月 29 号重捕的环号为 B150-9991 的黄喉鹀为 2014 年 10 月 25 日环志的；2016 年 11 月 02 号重捕的环号为 B182-0138 的黄喉鹀为 2014 年 10 月 27 日环志的。

（辽宁老铁山鸟类环志站：王小平）

黑龙江兴隆青峰鸟类保护环志站 2016 年春秋两季环志工作简讯

黑龙江兴隆青峰鸟类保护环志站（46°21′42″N，128°10′00″E）2016 年环志工作于 11 月 15 日圆满结束。春季环志工作在 3 月 1 日开始，于 5 月 31 日结束；秋计环志工作在 8 月 15 日开始，于 11 月 15 日结束。全年共计环志鸟类 5 目 21 科 72 种 17,553 只，其中归家 14 种 83 只，重捕 14 种 82 只。

今年春秋两季途经青峰迁徙的候鸟数量相比，雀形目环志了 17 科 61 种 17,358 只，占总环志量的 99 %，非雀形目环志了 4 目 4 科 11 种 195 只，占总环志量的 1%；鹀科环志数量最大，环志了 10 种 8,698 只，占总环志量的 49.6%;其次是雀科环志 7 种 2,500 只，占总环志量的 14.2%；鹎科环志 10 种 1,908 只，占总环志量的 10.9%；岩鹨科环志 1 种 1,227 只，占总环志量的 7.0 %；莺科环志 10 种 889 只，占总环志量的 5.1%；伯劳科环志 1 种 207 只，占总环志量的 1.2%；鹟科环志 5 种 108 只，占总环志量的 0.6%；鹡鸰科 3 种 39 只，占总环志量的 0.2%。

由于去年和今年的气候、温度相差不大，在同等人数和下网数量相同的情况下，今年春秋两季的环志种类数量和去年相比，变化也不大。

（黑龙江兴隆青峰鸟类保护环志站：阳艳岚）

2016 年黑龙江双河鸟类环志简讯

2016 年春秋两季鸟类环志 36 天，共环志鸟类 15 科 1,482 只。其中：翠鸟科 8 只，啄木鸟科 11 只，鹡鸰科 8 只，伯劳科 5 只，鸦科 29 只，岩鹨科 31 只，鹀科 67 只，鹟科 4 只，莺科 121 只，戴菊科 4 只，长尾山雀科 143 只，山雀科 155 只，鸸科 8 只，燕雀科 710 只，鹀科 178 只。数量最多的前 5 类鸟分别是，燕雀科、鹀科、长尾山雀科、山雀科和莺科。与 2015 年相比，新增加 1 科为戴菊科。

从鸟的活动规律来看，林地边缘鸟活动稀少，而河流、沼泽和田地边缘鸟活动的比较频繁，鸟种也多。2015 年在双河绥安村保护站共环志鸟 29 种 620 只，2016 年经过更换网场，延长环志时间，在保护区中心站环志鸟 35 种，1,482 只。

（黑龙江双河国家级自然保护区管理局：陈鹏）

黑龙江高峰鸟类保护环志站 2016 年环志工作简讯

高峰鸟类环志站（49°06′N；125°15′E）地处大、小兴安岭之间的嫩江河谷东岸，松嫩平原北麓的黑龙江省嫩江县高峰林场境内。境内植被以樟子松、云杉等人工林为主，成片的针叶林与四周农田相辉映，形成“绿色岛屿”，是候鸟经松嫩平原迁徙途中重要的停歇地和食物补给站。

高峰鸟类保护环志站春季于 3 月 15 日开始环志，5 月 31 日结束，历时 78 天；秋季于 8 月 15 日开始，12 月 10 日结束，历时 118 天。

2016 年共环志鸟类 95 种 8,247 只，其中

春季环志 81 种 3421 只，秋季 82 种 4,826 只。

自 1998 年开展环志以来，截止 2016 年 12 月末，高峰环志站共在本区发现鸟类 17 目 53 科 251 种，环志 16 目 47 科 193 种 292,109 只。

从环志数量看，较 2015 年的 4,827 只有所回升。

春季超过 200 只的仅有 3 种，红胁蓝尾鸲 (*Tarsiger cyanurus*)1,119 只、黄眉柳莺 (*Phylloscopus inornatus*)395 只、棕眉山岩鹨 (*Prunella montanella*)238 只。

秋季超过 200 只的为 4 种，白腰朱顶雀 (*Carduelis flammea*)2,026 只。燕雀 (*Fringilla montifringilla*)310 只、黄眉柳莺 275 只、棕眉山岩鹨 260 只。

自 2001 年以来，黄眉柳莺是高峰鸟类环志站唯一的春、秋两季环志的优势种，值得关注。

（黑龙江高峰鸟类环志站：李显达 方克艰）

江西齐云山国家级自然保护区鸟类环志工作概况

江西齐云山国家级自然保护区是众多候鸟的夜间迁徙通道，是开展候鸟环志的理想场所。在全国鸟类环志中心和江西省野生动植物保护管理局的关心支持下，保护区于 2008 年建立了江西齐云山鸟类环志站并持续开展了夜间候鸟环志工作。

2008—2016 年间，共环志鸟类 28,082 只，隶属 14 目 47 科 222 种，其中鹭科鸟类最多，共计 12 种 12,190 只，占总环志数量的 43.4%。优势种类有池鹭（*Ardeola bacchus*）9,321 只、栗耳凤鹛（*Yuhina castaniceps*）3,003 只、红尾伯劳（*Lanius cristatus*）2,134 只、黄苇鳽（*Ixobrychus sinensis*）1,773 只等，占总环志数量的 57.8 %。历年环志国家 II 级保护鸟类共 15 种，主要包括小鸦鹃（*Centropus bengalensis*）、仙八色鸫（*Pitta nympha*）、东方角鸮（*Otus sunia*）、领角鸮（*Otus bakkamoena*）、松雀鹰（*Accipiter virgatus*）等。历年来共回收鸟类 4 只，包括回收到日本北海道环志的蓝歌鸲（*Luscinia cyane*）和江西遂川环志站环志的仙八色鸫各 1 只，本站环志的 1 只厚嘴苇莺（*Acrocephalus aedon*）在黑龙江呼中自然保护区被回收，另有本站环志的 1 只池鹭归家被重捕。

鸟类环志的开展有效的促进了保护区内的鸟类资源监测、野生动物疫源疫病监测和鸟类保护宣传等工作，为候鸟资源的保护管理提供了科学依据。

（江西齐云山鸟类环志：陈辉敏）

鸿雁迁徙的卫星跟踪研究

2014 年 11 月至 2016 年 3 月，我们给 5 只鸿雁环志并佩戴跟踪器，成功跟踪了 4 只鸿雁的迁徙路线。其中，1 只鸿雁完成了繁殖地与越冬地的春季和秋季迁徙。3 只鸿雁仅完成了越冬地至繁殖地的春季迁徙，。卫星跟踪结果表明：卫星跟踪的鸿雁繁殖地位于中国内蒙古自治区北部或西部，以及与其毗邻的蒙古共和国的东部。在鸿雁的春季迁徙中，3 只选择了在迁飞一段时间后，在渤海湾或莱州湾附近跨越渤海到达辽东半岛沿海，另外 1 只选择了完全的内陆飞行。在其秋季迁徙中，采用和春季迁徙不同的迁徙路线，并且将鸭绿江口作为重要的中途停歇地。此外，其中 1 只鸿雁在其秋季迁徙途中，在鸭绿江口进行短暂停歇后，以近乎匀速的速度前往福建东部水域，之后位点消失。我们怀疑此鸿雁已被人捕杀。此跟踪结果反映了在鸭绿江口存在偷猎野生动物的情况。

（中国林业科学研究院森林生态环境与保护研究所：徐家慧 钱法文）

金山丫口鸟类监测环志站使用卫星跟踪技术首次监测到鸟类环状迁徙路线

近日，根据接收到的数据显示，云南哀牢山国家级自然保护区新平管理局于 2015 年 10 月在金山丫口鸟类监测环志站安装了信号发射器的一只夜鹭完成了一个环状迁徙路线，于近日再次飞越金山丫口，这是金山丫口鸟类监测环志站 13 年监测环志工作以来重要的成果之一。

2015 年 10 月，哀牢山国家级自然保护区新平管理局与中国科学院昆明动物研究所吴飞博士合作，在金山丫口鸟类监测环志站为一只夜鹭 (*Nycticorax nycticorax*) 戴上了信号发射器，使用卫星跟踪技术监测其迁徙路线。根据接收到的数据显示，夜鹭于金山丫口戴上卫星跟踪器后，飞至普洱市墨江县、宁洱县，至 2015 年 11 月 28 日期间一直在墨江县和宁洱县活动，于 2015 年 11 月 29 日到达勐海县活动，之后数月出现信号丢失，疑飞入缅甸 (出国境无信号接收)。

然后，它于 2016 年 5 月 19 日开始迁徙，飞越金山丫口，途经云南、贵州、四川，于 2016 年 5 月 29 日到达泸州泸县，在在泸县境内活动数日，于 2016 年 6 月 13 日到达重庆市永川区，在重庆市活动三月余，于 2016 年 9 月 25 日从重庆开始飞行，经四川、贵州、云南，近日再次飞越金山丫口，到达普洱市宁洱县，停留至今。

保护候鸟最紧迫的任务是明确鸟类在繁殖地、中转站、越冬地的生态需求，卫星跟踪技术较之传统鸟类监测环志具有明显成效，通过卫星跟踪技术，了解候鸟的迁徙时间、路线、迁徙途经地等信息，不但对保护候鸟资源有重要的价值，同时也可为防止鸟机相撞和预防流行病的传播提供科学依据。卫星跟踪技术的运用，不但为金山丫口鸟类监测环志提供了新的技术平台，创造了传统鸟类监测环志无法比拟的成效，同时也为候鸟迁徙研究提供了基础数据，促进了候鸟保护研究工作的发展。

（云南哀牢山国家级自然保护区新平管理局：何丽媛）

2016 年度全国野生动物疫源疫病主动监测与鸟类环志培训班在乌梁素海举办

9 月 11 日—17 日，全国鸟类环志中心在内蒙古巴彦淖尔市乌梁素海湿地举办 “2016 年度全国野生动物疫源疫病主动监测与鸟类环志培训班 ”，主要采取室内授课与野外实践相结合的方式。

在培训班上，专家们讲授了中国野生动物疫源疫病监测防控工作面临的形势、主动预警工作的基本方法和取得的初步成效；野生动物救护知识；野生动物疫源疫病监测 — 样品采集方法；全国鸟类环志概况；鸟类环志技术规程；鸟类识别与分类等内容。

在培训期间，各疫源疫病监测站、环志站相互交流了疫源疫病主动监测、采样方法、环志情况、经验以及对出现的问题所采取的解决办法。通过培训，环志人员进一步掌握了野生动物疫源疫病主动预警方法、样品采集、保存等方法，提高了候鸟监测、鸟类环志等专业技术能力，为野生动物疫源疫病主动预警、规范鸟类环志管理和候鸟迁徙研究等监测工作的顺利开展提供了技术保障。

参加培训班的学员分别来自全国各疫源疫病监测站、主动预警站、鸟类环志站、野生动物救护中心等 37 个单位共计 70 余人。

（全国鸟类环志中心：陈丽霞 张国钢 陆军）

“纪念郑作新院士诞辰 110 周年纪念活动”在北京举行

11 月 12 日，由中国科学院动物研究所、国家动物博物馆、中国动物学会鸟类学分会、北京师范大学生命科学学院联合主办的“纪念郑作新院士诞辰 110 周年活动暨鸟类学系列讲座”在北京中国科学院动物研究所报告厅举行。中国科学院动物研究所、国家林业局、国家动物博物馆、北京自然博物馆、北京动物园等单位的领导、专家、研究生和鸟类爱好者数百人参加了纪念活动，会议由国家动物博物馆张劲硕博士主持。

会上播放了介绍郑作新院士生平的视频。中国科学院动物所副所长周琪院士在致辞中详细介绍了郑作新院士的科研成果；鸟类学老前辈郑光美院士在致辞中提到，解放前中国的鸟类主要是由外国学者研究的，解放后在郑作新院士的带领下，中国鸟类学研究逐渐发展壮大，到现在有些方面已达到世界水平，郑老为我国鸟类学的发展作出了杰出贡献。北京师范大学生命科学学院张正旺教授高度评价郑作新院士献身科学、重视科普，为我国培养出一大批鸟类学事业的接班人。郑作新院士的儿子郑怀竞代表家属、中国科学院动物所雷富民研究员代表郑作新院士的弟子也相继在会上发言，缅怀和回顾了郑作新院士的丰功伟绩。

上午的纪念会之后，来自北京自然博物馆的李建军研究员、北京师范大学张雁云教授、中科院动物所的孙悦华研究员分别做了精彩的学术报告。下午有 8 位中青年鸟类学者做了鸟类学专题演讲，主讲者与听众积极互动，部分专家还提出了新的观点和构想。

全天的会议学术氛围十分热烈，充满了对一代宗师郑作新院士的深切怀念之情，纪念大会取得了圆满成功。

（鸟类学分会秘书处）

全国生物多样性（鸟类）观测网络建设进展

为推动建立国家生物多样性观测网络，自 2011 年起，环境保护部南京环境科学研究所以鸟类为试点类群，开展了全国生物多样性试点观测。截至 2016 年，在全国 31 个省（区、市）共建立 350 余个鸟类观测样区，设置样线 2,000 余条；样点 1,300 余个。全国共有 120 余家单位，每年有 2,000 多人参与野外调查。自试点工作启动以来，在观测方法、指标体系、观测队伍建设等方面取得了显著成果。建立了较为成熟的生物多样性观测技术标准体系，发布了生物多样性观测技术导则 — 鸟类，并编写了鸟类观测培训手册，为建立全国生物多样性观测网络奠定了基础。

在观测结果方面，截至 2015 年，繁殖鸟类观测共记录到鸟类 970 种，占全国总数的 70.8%。对常见繁殖鸟类、繁殖水鸟和越冬水鸟分别进行了分析发现，常见繁殖鸟类和内陆湿地越冬水鸟无明显变化趋势，滨海湿地水鸟种群数量呈下降趋势。

（环保部南京环科所：崔鹏 雍凡 张文文）

中国鸟类学史料中心工作进展报告

中国鸟类学史料中心自 2013 年 11 月由中国动物学会鸟类学分会和浙江自然博物馆共同成立以来，至 2016 年 12 月已满 3 年。在这 3 年里，史料中心在藏品、软硬件设施和管理等方面都取得了一定成果，除此以外，史料中心还积极参与了鸟类科学绘画征集、展览及书籍出版等其他工作。

2014 年收藏鸟类学史料及相关藏品 833 件（份），其中捐赠 639 件（份），其他途径征集 194 件（份）。捐赠史料数量较大，得益于 2013 年下半年至史料中心成立前后来自鸟类学界各位前辈、学生和家属等的集中捐赠。这批史料的捐赠协议和证书发放已经办结。

2015 年 1 月至 2016 年 12 月，史料中心继续开展藏品征集工作，共新增藏品 302 件，其中捐赠获得 94 件，其他途径征集 208 件（表 1）。史料中心每年有固定经费用于藏品的其他途径征集，2014—2016 年每年征集经费约 5 万元，未来可能增加预算。

表 **1** 中国鸟类学史料中心 2014—2016 年度藏品征集情况

年度	捐赠获得	其他途径	年度总计
2014	639	194	833
2015	57	105	162
2016	37	103	140
总计	733	402	1,135

在藏品征集方面，史料中心正逐步扩大征集范围，收集了一些早期国内外学者对中国鸟类的研究的电子版文献、研究生论文、国内外鸟类邮票等。此外，史料中心目前已经收集到部分国内外学者对中国鸟类研究著作（表 2）。

2015 年 11 月，鸟类学史料中心网站建成并试运行（http://www.birdarchives.cn/），将征集到的全部书籍和部分其他类别藏品的信息登在网站上，供大家查询，该网站也设有捐赠和借阅的功能。目前网站正在进行域名变更及服务器搬迁工作，预计 2017 年 3—4 月正式上线。

表 **2** 中国鸟类学史料中心已入藏年代较早的外国学者关于中国鸟类的著作

著作名称	数量
Shanghai Birds 1927	1
South China Birds 1931	1
A handbook of the birds of Eastern China 1934	2（全 2 册）
Birds of Hopei 1936（影印本）	1
Birds of Northeastern China 1938	1
Tibet and its Birds 1972	1
Les O'lseaux de Chine 1978	1
The Birds of China 1984	1

2017 年中国鸟类学史料中心的工作计划参照以往，在保证常规征集工作持续进行的情况下，增大范围、提高数量，并确实开展走访工作，尽早收集中国早期鸟类学研究史料。同时，随着网站的正式上线，做好网站内容更新和维护工作。如欲捐赠中国鸟类学史料或提供征集信息，请联系：王思宇博士。电　话：15397160672，Email：812355207@qq.com，联系地址：浙江省杭州市下城区西湖文化广场 6 号，浙江自然博物馆，邮编：310014。

（中国鸟类学史料中心：王思宇　陈水华）

国家林业局组织开展全国秋季迁徙水鸟同步调查工作

根据国家林业局野生动植物保护与自然保护区管理司《关于开展全国第二次陆生野生动物资源调查秋季迁徙水鸟同步调查的通知》和《全国第二次陆生野生动物资源调查秋季迁徙水鸟同步调查技术方案》的规定和要求，全国各省市启动了秋季迁徙水鸟同步调查工作，对候鸟迁徙、停歇、栖息的集群地和雁鸭类、鹤鹳类等珍稀水鸟的分布区开展调查。秋季迁徙水鸟同步调查工作于 10 月

23 日和 11 月 6 日分两次进行。

此次水鸟同步调查是继 2016 年 1 月越冬水鸟调查之后，在我国开展的第二次候鸟同步调查，旨在通过系统收集区域内水鸟种群数量及分布数据，掌握迁徙水鸟的迁徙时间、路线、迁徙数量、分布变化、水鸟重要栖息地及保护现状情况等，为制定更具针对性的水鸟资源保护管理措施提供科学依据。迄今调查的外业工作已经完成，有关调查结果正在汇总中。

（北京：张正旺）

华夏鸟韵 唱响长安

2017 年古城西安将迎来第十四届中国鸟类学大会。在中国动物学会鸟类学分会理事会的精心组织下，本届大会将于 2017 年 9 月 21—24 日在陕西师范大学雁塔校区举行，主会场积学堂可容纳 700 人；分会场设在崇鋆楼四个地点，分别是学思堂（244 人）、归人堂（244 人）、思齐堂（108 人）和闻道堂（108 人）。第十四届中国鸟类学大会由中国动物学会鸟类学分会主办，陕西师范大学、陕西省动物研究所和陕西省动物学会承办，陕西省野生动物保护协会、西安浐灞国家湿地公园等单位协办。

会期适值金秋时节，陕西师范大学雁塔校区古木参天，落叶缤纷，百鸟争鸣；古都西安南依秦岭，北临渭河，长安八水环绕其间，不仅有悠久的历史文化、美景、美食，而且有很多观鸟的地点，欢迎海峡两岸的专家学者和爱鸟人士参加本届大会。

（陕西师范大学：于晓平）

中国自然保护区建立六十年成绩显著

1956 年我国建立了第一个自然保护区 — 广东鼎湖山自然保护区，并从此启动了我国自然保护区建设事业。2016 年，我国自然保护区发展步入了六十周年。六十年来，我国自然保护区建设从无到有、从小到大、从单一到综合，在实践中不断完善，取得了举世瞩目的成就，产生了广泛的国际影响。

（一）自然保护区网络基本形成。截至 2015 年底，全国自然保护区数量为 2,740 个，总面积约 14,703 万公顷，占陆地国土面积 14.8%。其中，国家级自然保护区数量为 428 个，总面积 9,649 万公顷。

（二）重要生态系统保护成效斐然。我国自然保护区范围内分布有 3,500 多万公顷天然林和约 2,000 万公顷天然湿地，保护着 90.5% 的陆地生态系统类型。例如，我国长江、黄河、澜沧江、怒江、雅鲁藏布江等重要大江大河源头生态系统、东北大小兴安岭和长白山地、横断山区等地区重要天然林精华都在自然保护区内得以保护保育。

（三）野生动植物资源保护更加有力。我国约 85% 的野生动植物种类、65% 高等植物群落、300 多种重点保护的野生动物和 130 多种重点保护的野生植物得到了保护。例如，野外朱鹮由最初 7 只增加到 1,500 余只，西双版纳自然保护区亚洲象已由最初 170 头增加到约 230 余头，其活动范围也在不断扩展。

（四）科普宣教功能发挥有效。目前，我国有 200 多处国家级自然保护区建有动植物标本馆、自然博物馆、科普馆、科普长廊等，年接待参观考察人数超过 3,000 万人（次），150 多个国家级自然保护区建立了宣传网站或网页，自然保护区成为科普教育、生态教育和弘扬生态文明、开展爱国主义教育的重要基地。

（五）国际合作继续深化。我国自然保护区有 23 处国家级自然保护区加入了“世界人与生物圈网络”，34 处自然保护区加入国际重要湿地，18 处自然保护区成为世界自然遗产地的组成部分，内蒙古达赉湖等一批国家级自然保护区加入“东亚 - 澳大利亚西亚涉禽迁徙网络”，安徽升金湖等一批国家级自然

保护区被列入“东北亚鹤类保护网络”。

（北京林业大学：徐基良）

中国观鸟会完成第 13 年北京湿地鸟类同步调查

2016 年 3 月 18—19 日，10 月 22—23 日，中国观鸟会（原北京观鸟会）完成了北京地区春、秋季湿地鸟类同步调查；这是自 2003 年秋季开始的第 13 年同步调查。2016 年，102 人次的志愿者对 35 个样点（次），进行了同步调查工作，调查共记录鸟类 155 种，19,667 只，分属 17 目 46 科。其中湿地水鸟 57 种，10,390 只，分属 7 目，12 科。

本项目调查，为监测北京地区水鸟的迁徙与分布采得大量基础数据，对湿地保护与疾病防控具有重要意义。

（中国观鸟会：蔡益 付建平）

大杜鹃佩戴卫星追踪器首获重要信息

2016 年 5 月下旬，由中国观鸟会参与策划，北京野生动物救护中心主持，英国鸟类学基金会技术支持的大杜鹃卫星追踪项目实施。项目组在北京汉石桥湿地、翠湖湿地、野鸭湖湿地为 5 只大杜鹃带了卫星追踪器，其中 3 只在北京过夏；另外 2 只，一只到了内加尔湖，一只到了俄罗斯边境。目前从 3 只活跃的大杜鹃传回的信号首次获得了大杜鹃的迁徙路径及越冬地信息。这三只大杜鹃在北京和俄罗斯度过夏日后，分别穿越 南亚大陆，跨过阿拉伯海，先后到达了非洲大陆并越过赤道进入南半球。

（中国观鸟会：Terry 侯笑如）

各地观鸟组织将联合开展燕及雨燕调查与保护项目

2016 年，中国观鸟会与深圳观鸟协会、香港观鸟会、寸草心乡村环境保护促进会合作，共同发起全国燕及雨燕调查与保护项目。目前已有 12 个省市区观鸟组织参与项目，覆盖东西南北中。项目将在 2017 年对燕及雨燕进行同步调查及燕巢调查。

（中国观鸟会：付建平）

北京高校观鸟赛 15 年

2016 年 11 月 5 日，在北京延庆野鸭湖举办了第十五届北京高校观鸟赛。来自 9 所高校、5 所中学的 14 只参赛队齐聚野鸭湖，经过 3 小时比赛，共记录 87 种，经评委确认 76 种为有效记录。本届观鸟赛由中国观鸟会、北京野鸭湖国家湿地公园共同主办，北京林业大学百奥生物协会、自然向导协办。

2002 年，第一届北京高校观鸟赛在野鸭湖举行，自此，每年 10 月底 11 月初，这一赛事都在野鸭湖举办，成为高校乃至所有观鸟爱好者关注的一个赛事。2007 年，中国观鸟会的前身北京观鸟会还在北京野鸭湖承办了首届全国高校观鸟赛，来自北京、天津、上海和江苏、湖北、四川、云南、广东、福建等地高校的 17 支队伍汇集野鸭湖参赛。此赛事将观鸟活动推广到全国的高校校园，带动了各省市观鸟活动的开展。2009 年，中国观鸟会主办野鸭湖北京高校观鸟赛至今。

（中国观鸟会：陈晓星 付建平）

第十届亚洲猛禽协会学术研讨会将在菲律宾召开

2017 年是亚洲猛禽协会（ARRCN）成立 20 周年。该协会自成立以来，在加强相关学

者交流沟通、提高亚洲猛禽研究水平、促进猛禽保护等方面，付出了很大努力，并取得了卓著的成果。第十届亚洲猛禽协会学术研讨会将于 2017 年 10 月 18-22 日在菲律宾召开，感兴趣的专家学者请访问会议网站 www.philippineeaglefoundation.org，查阅相关会议信息，并准备论文参会交流。

（中国林科院：马强）

第十一届欧洲鸟类学大会将在芬兰图尔库举行

第 11 届欧洲鸟类学大会（the 11th Congress of the European Ornithologists' Union）将于 2017 年 8 月 18—22 日在芬兰东南部城市图尔库举行。这次大会由欧洲鸟类学家联盟（the European Ornithologists' Union）和芬兰图尔库大学（University of Turku）联合主办。五天的会期包含三天的科学议程，有 6 个大会报告、10 个鸟类学前沿和经典领域的专题讨论会报告（已经确定的主题包括：鸟类基因组、鸟类社会行为的组织、鸟类迁徙和定向、鸟类扩散、鸟类生理、鸟类血液寄生虫、鸟类羽色的进化、鸟类保育和鸟类巢的功能等），还包括口头报告、壁报等内容。会议摘要截止日期是 2017 年 2 月 28 日，会议早期注册开放日期是 2017 年 3 月 1 日。更多信息请参考大会的网站（http://www.utu.fi/en/sites/eou2017/Pages/home.aspx）。

（中山大学：刘阳）

2017 北美鸟类学年会将在美国密歇根州立大学举行

2017 年北美鸟类学年会（American Ornithology 2017）于 2017 年 7 月 31 日—8 月 5 日在美国密歇根州的东兰辛市举行。这次会议是由美国鸟类学会和加拿大鸟类学会联合举办。这次会议的主题是“人类世下的鸟类”。在几天的学术会议当中，将就鸟类学的前沿和热门领域的研究，特别是全球变化下和人为改造环境下的鸟类个体、群体和群落的适应进行深入地交流和讨论。会议摘要截止日期是 2017 年 4 月 1 日，会议早期注册开放日期尚未公布 。更多信息请参考大会的网站（http://aossco2017.fw.msu.edu/）。

（中山大学：刘阳）

欧亚非国际鹭类会议通知

西班牙是国外最为重视鹭类研究与保护的国家，有关国际组织定于 2017 年 2 月 16 日至 21 日在西班牙美丽古城托莱多（Toledo）举行“保护欧亚非鹭类及行动计划研讨会”和“第二届预防鹭类中毒会议”。迁徙物种公约、西班牙鸟类学会（SEO）及西班牙鸟盟将主办这次会议 。凡有意愿参与或想获取会议信息者，请与中国动物学会鸟类学分会猛禽专业组马鸣联系（其他信息请参阅英文通知）。

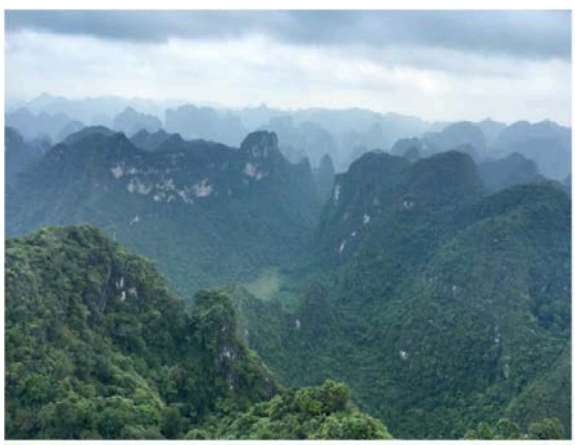
（新疆生态与地理研究所：马鸣）

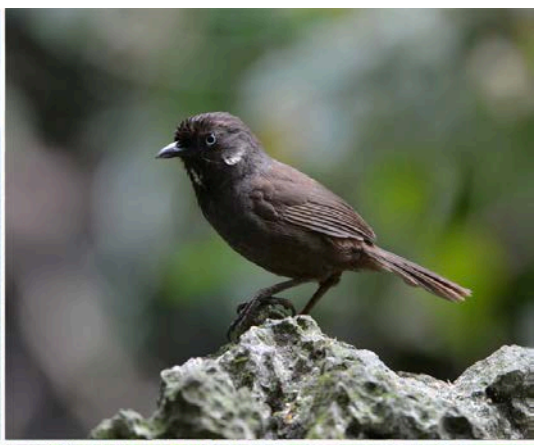
《桂西南喀斯特地区鸟类研究》

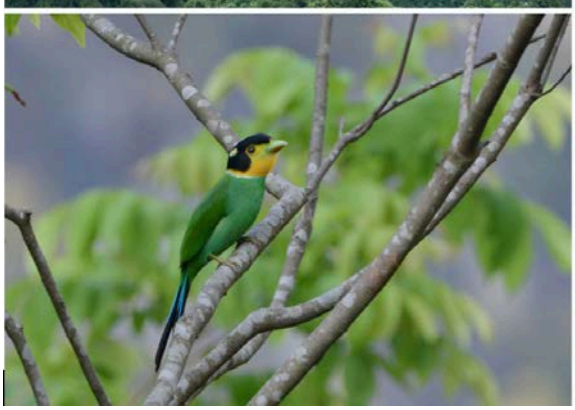
中国西南部是我国最主要的喀斯特分布区，是世界上最大的喀斯特连续出露带。广西西南部喀斯特地区是中国西南部喀斯特地区的重要组成部分。由于这一地区地处北热带，自然条件复杂多样，生境异质性高，而且是中国喀斯特季雨林的主要分布区，同时位于具有全球意义的生物多样性热点地区，因此其生物多样性的丰富度以及科学意义比我国其他喀斯特地区显得更重要。但由于历史上种种原因，长期以来对该地区鸟类的研究一直很少。

该地区是南洋群岛和中南半岛动物区系向亚洲大陆扩散的重要通道，生物多样性十分丰富。它与滇南、海南同属北热带，是我国北热带的重要组成部分，但在地形、地貌和其它自然条件上与滇南、海南有较大的差异。虽然对滇南和海南这两个地区的鸟类区系已调查研究得比较多，但如果不了解桂西南，仍然是一个较大的缺失，不足以了解中国北热带鸟类区系全貌。

自上个世纪九十年代年以来，广西大学周放教授的研究团队对桂西南喀斯特地区的鸟类及自然保护区进行了较系统的全面调查研究。研究工作包括在鸟类区系和多样性、鸟类的时空分布、喀斯特鸟类多样性的形成机制和分布格局、鸟类对喀斯特的适应、喀







斯特特有种弄岗穗鹛的发现及其生态生物学、喀斯特地区珍稀保护鸟类，以及受威胁原因和保护对策等方面所作的较为深入的研究和探讨，并于 2016 年 11 月由科学出版社出版了周放等著的《桂西南喀斯特地区鸟类研究》。该著作收录了已知在这一地区分布的鸟类共 503 种，包括先后发现的 50 种（亚种）为广西鸟类新纪录。在该地区鸟类中，有 44 种是以往在中国仅见于云南西南部、南部或海南的热带成分鸟类，展现了桂西南喀斯特地区鸟类区系的北热带特色。该著作是国内第一部比较系统、完整地对喀斯特地区鸟类进行研究和探讨的专著。该书共分十章，系统介绍了鸟类与喀斯特生态系统的关系，并着重介绍了在中国最为典型的喀斯特地区、也是全球生物多样性热点地区 —— 桂西南喀斯特地区对鸟类进行的研究工作情况。这些研究极大地提高了学界对中国北热带鸟类的认识，弥补了长期以来对中国北热带鸟类研究方面的缺失。

（广西大学：周放 陆舟 蒋爱伍）

《中国雉类及繁育技术》

《中国雉类及繁育技术》由世界雉类协会副主席、欧洲保护繁育组第一任主席 John Corder 先生和北京动物园前鸟类主管张敬女士合作整理编写。是一本关于珍稀雉类笼养繁育管理和技术的书籍，主要面对中国动物园、濒危雉类繁育中心的雉类管理者和饲养人员以及广大的雉类爱好者。

本书的第一部分，“世界的雉类”，收录了 51 种珍贵的雉类简介和照片，其中还包含一些亚种、地理分布、栖息环境和笼养繁殖等信息。笼养雉类发展简史，向读者展现了人类对笼养和野外雉类的认识和研究成果。第二部分，“笼养雉类”，详细论述了笼养雉类的场地规划、笼舍设计、天敌防治、繁育技术、个体档案保存以及动物捕捉和运输要点、医疗和卫生保健等大量源于实践的宝贵信息。

（北京动物园：张敬）

《中国鸟类图鉴》（猛禽版）

由宋晔、闻丞编著的《中国鸟类图鉴》(猛禽版）于 2016 年 10 月在福建海峡书局出版发行。该书以图文并茂的形式介绍了中国境内的各种猛禽，内容包括辨识要点、生态习性、分布范围等。全书共收集 490 多张照片，分别从雄、雌、幼、亚种、色型的差异、地域的差异等方面来展现每种猛禽的特点。本书涉及猛禽 3 个目、5 个科、98 种，是我国各种猛禽的首次大集合，是一本可用于猛禽野外观赏的高水平的工具书。

（北京：张正旺）

《神奇的鸟类》中译本出版

《神奇的鸟类（Extraordinary birds)》译著日前由重庆大学出版社出版。本书的英文原版介绍了美国自然历史博物馆（American Museum of Natural History）鸟类学部收藏的 40 本与鸟类有关的图书的代表性插图。由鸟类学部的馆员 Paul Sweet 博士撰写，中山大学鸟类学博士研究生梁丹翻译。通过对这些图书中重要的鸟类插图和鸟类学家、插画师的介绍，普及了欧美早期鸟类学发展的历史和趣闻。

（中山大学：刘 阳）

“第十四届中国鸟类学大会”第一轮通知

经中国动物学会鸟类学分会 2016 年 7 月昆明常务理事扩大会讨论决定，“第十四届中国鸟类学大会”将于 2017 年 9 月 21 日至 24 日在陕西省西安市召开。本届大会由中国动物学会鸟类学分会主办，陕西师范大学、陕西省动物研究所、陕西省动物学会等单位承办，会前将举办“第十三届全国鸟类学研究生翠鸟论坛”。会议期间还将举办中国动物学会鸟类学分会理事会和全国会员代表大会，进行理事会换届选举。

一、会议主题：鸟类行为、生态适应与演化

二、时间：2017 年 9 月 21—24 日

三、地点：陕西师范大学雁塔校区

四、日程安排：2017 年 9 月 21 日报到，22-24 日为学术报告。25—27 日为会后野外考察。会议详细日程安排请关注鸟类学会网站（www.chinabird.org）。

五、费用：参会代表需要缴纳会议注册费，具体标准见下表。会议期间各位代表的住宿费用和会后考察费用自理。早期注册和现场注册以在中国动物学会的学术会议系统网站注册，且在早期注册和现场注册截止时间前缴纳注册费为准（以邮局汇款、银行转账凭证等为据）。

早期注册 2017 年 3 月 1 日—5 月 31 日前	正常注册 2017 年 6 月 1 日—9 月 5 日	现场注册 2017 年 9 月 21 日
会员代表 ￥1100	会员代表￥1300	会员代表￥1500
非会员代表￥1200	非会员代表￥1400	非会员代表￥1600
学生代表 ￥800	学生代表￥1000	学生代表￥1200

六、大会专题设置和论文摘要提交

本届大会将设立专题报告会和圆桌讨论会，并在黄金时间设立墙报单元（每个单元 60 分钟），大会将评选并颁发最佳墙报奖和优秀墙报奖。

每个专题报告会的时间单元为 120 分钟，圆桌讨论会的时间单元为 60 分钟。专题报告会和圆桌讨论会的设置采取大会学术委员会邀请和与会代表自由申请两种方式。每个专题报告会和圆桌讨论会的主持人有两位，应分别来自两个不同单位。申请设置专题报告会和圆桌讨论会时，专题报告会的申请人需要提交至少 500 字的摘要，阐述该专题的学术意义、重要性等，其中专题讨论会要提出拟邀请的报告人和报告题目，且至少明确 3 名报告人。专题报告会和圆桌讨论会的自由申请截止时间为 2017 年 5 月 31 日。

本届大会官方语言为中文，除特邀国际

著名学者外，所有提交材料均为中文，包括会议论文摘要、报告的 PPT 和墙报。为鼓励国际交流，本届大会专设了青年学者英文专题报告会，报告人限 40 岁以下的研究生或青年学者，*Avian Research* 编辑部和鸟类学分会将对该专题报告会的优秀报告人给予奖励。

向大会提交论文摘要的截止日期为 2017 年 7 月 31 日。摘要字数不超过 500 字，包括题目（中英文)、作者、单位（含地址及邮编)、摘要正文和中英文关键词。请在提交前确保以上 5 项内容全部撰写清楚。具体要求详见学术会议系统的会议动态栏目中提交摘要样例及要求，所有论文摘要通过网上递交（将在第二轮通知)。提交论文摘要时，请务必注明该论文申请报告的类型 (口头报告或墙报), 最后大会学术委员会依据本人申请报告类型和日程安排确定报告类型。本届大会将出版大会论文摘要集，用于会上交流。

七、住宿安排

本届大会的会议地点位于陕西师范大学雁塔校区，住宿酒店包括校园内的 “ 陕西师范大学学术活动中心 ” 及周边的 “ 百事特威酒店曲江店 ” 等，请需要大会会务组协助提前预定宾馆的代表，请在 2017 年 3 月 1 日—8 月 20 日之前登陆中国动物学会网站（http://czs.ioz.cas.cn/）的学术会议系统并预订宾馆。

本届大会将继续进行 “ 中国鸟类基础研究奖 ”、“ 中国鸟类学研究生学术新人奖 ” 等奖项的评奖活动。

本届大会将继续举行由参会代表参加的鸟类和鸟类工作摄影比赛，欢迎大家踊跃投稿。具体规则请关注大会网站。

会后的野外考察包括秦岭鸟类科学考察等, 欢迎全国各研究单位、大专院校、博物馆、动物园、自然保护区和野生动物管理部门等单位的鸟类科技工作者报名参会。具体信息请参见大会第二轮通知和鸟类学分会网站上的消息。

（中国动物学会鸟类学分会）

封面照片 鱼鹰（*Pandion haliaetus*）由孙栗源于 2010 年 2 月 27 日摄于台湾。

English Abstract

Notes of Meetings

The 2016 International Symposium on Galliformes (ISG) was held in Beijing

The symposium was held in Beijing Forestry University from October 21-23 in 2016. A total of more than 190 delegates from nearly 20 countries attended this symposium, including USA, Canada, Sweden, Great Britain, Germany, Netherland, Denmark, Finland, India, Nepal, Pakistan, Vietnam and China. The symposium was organized by World Pheasant Association and China Ornithological Society, hosted by Beijing Forestry University, and supported by Department of Wild Fauna & Flora Conservation and Nature Reserve Management, China Wildlife Conservation Association, Forestry Department of Shanxi Province,Beijing Zoological Society, Beijing Normal University, Hainan Normal University, Beijing Zoo, Taiyuan Zoo, Chengdu Zoo, Pangquangou National Nature Reserve, Fengtongzhai National Nature Reserve, BWRRC, the journal Avian Research, Birdnet, Nature Image of China.

This symposium provided a platform for communication of research and conservation on Galliformes (pheasants, partridges, cracids, grouse and megapodes), as well as sustainable management. In particular, the symposium focused attention on the protection of threatened species and their habitats. In total 8 plenary lectures and 19 oral presentations were invited to share their researches at this symposium, and 24 posters were exhibited during this symposium. After the symposium, more than 30 foreign delegates went to Pangquangou National Nature Reserve in Shanxi province to see the endemic Brown Eared Pheasant, and then to visit Bifengxia Panda Breeding Centre and the Fengtongzhai Chinese Monal Breeding Programme.

(The organizing Committee of ISG)

The 12th Kingfisher Forum was held at Beijing Normal University

From August 24-25th in 2016, the 12th Kingfisher Forum (the ornithological conference for young scientists) was held at Beijing Normal University. The forum was organized by China Ornithological Society and hosted by Beijing Normal University. More than 70 students from 20 units including Beijing Normal University, China Academy of Sciences, Beijing Forestry University, Chinese Academy of Forestry, Northeast Normal University, Wuhan University, Zhongshan University, Fudan University, Guangxi University, Minzu University of China, Northeast Forestry University, Hainan Normal University, Hebei Normal University, Liaoning University, Jiangxi Agricultural University, Jilin Agricultural University, Southwest Forestry University participated in

this forum.

The forum is divided into expert lectures and students report. In the lecture session, Prof. Yi Tao taught the basic theory and development history of evolutionary game dynamics; Professor Zhao Hua Bin from Wuhan University presented "molecular adaptation of feeding differentiation: from birds to mammals", Dr. Shengfeng Shen; from Taiwan Central Research Institute gave a talk on behavioral ecology and evolution biology with three high level research work. In the report session, a total of 19 students presented their research on the bird's reproduction and life history evolution, behavioral ecology, molecular evolution, community dynamics, migration and conservation biology, etc. Another 9 students from Beijing Normal University, Fudan University, Chinese Academy of Sciences University, Beijing Forestry University and other units gave their the poster presentations.

(Lu Dong, Beijing Normal University)

The Fifth Symposium of International Network of Black-necked Cranes held in Gansu Province

On 21-23 August 2016, The Fifth Symposium of International Network of Black-necked Cranes was held in Yanchiwan National Nature Reserve in Subei Mongolian Autonomous County of Gansu Province. The theme of this symposium was "the migration and protection of black necked cranes". The symposium was jointly organized by the Gansu Provincial Forestry Department, the International Crane Foundation, the National Bird Banding Center and Kunming Institute of Zoology, Chinese Academy of Sciences. The Yanchiwan National Nature Reserve, People's Government of Subei Mongolian Autonomous County and College of life sciences, Lanzhou University hosted this conference.

(Xiaojun Yang, Yunnan; Lixun Zhang, Gansu)

The Third China-Japan-South Korea Workshop on Conservation of Crested Ibis Held in Japan

Crested Ibis (*Nipponia nippon*) is an endangered species endemic to East Asia. To exchange research progress and promote conservation collaboration, the Third China-Japan-South Korea Workshop on Conservation of Crested Ibis Held in Niigata of Japan during December 13-24, 2016. The Japanese delegates presented that the reintroduction in Japan went well and the total population reached to 400 individuals. However, Japanese population has relatively low genetic diversity. The South Korea delegates reported c. 170 individuals in stock and planned to launch reintroduction in 2017. Chinese delegates reviewed the conservation progress in China and reported novel reproductive variations in reintroduced population. China now has more than 1500 wild birds in Yangxian of Shaanxi Province and another 5 reintroduced populations and 7 captive populations. Genetic diversity improvement and conservation collaboration were

emphasized in the discussion session. The fourth workshop will be held in South Korea in 2017.

(Dongping Liu, National Bird Banding Center)

5th International EcoSummit 2016 in Montpellier, France

The members of Chinese Ornithological Society participated the EcoSummit 2016 in Montpellier, France during August 29 to September, 2016.

About 1500 delegates from 75 countries participated the conference. There are 11 plenary presentations, 93 sessions, 15 side events and more than 600 posters in this conference. Delegates at EcoSummit 2016 are well aware of the world's current environment problems, related largely to increases in the human population, and the needs of mankind in the Anthropocene. Professor Fasheng Zou in Guangdong Institute of Applied Biological Resources (GIABR) gave an oral talk on "Targeting nuclear species in mixed species flocks: An efficiency conservation pathway for the conservation of forest bird communities". Professor Eben Goodale organized one session on "Integrative Approaches to Understanding Mixed-species Group: Towards Community Conservation". Dr. Qiang Zhang in GIABR and Mr. Hao Gu in Guangxi University attended the conference.

(Fasheng Zou, Guangdong Institute of Applied Biological Resources)

Research Reports

Current appearance of the Baer's Pochard in China

The Baer's Pochard (*Aythya baeri*), due to dramatic declining of its (far known) population, was treated Vulnerable (VU) in the 1980s (Collar et al., 1994), in this century, upgraded to Endangered (EN) in 2008 and then Critically Endangered (CR) in 2012 (BirdLife, 2016).

Whereas, since the beginning of the 2010s, sighting records of the Baer's Pochard have been widely reported in China, including Heilongjiang, Jilin, Liaoning, Beijing, Tianjin, Hebei, Henan, Shangdong, Shaanxi, Anhui, Hunan, Hubei, Jiangxi, Jiangsu, Zhejiang, Sichuan, Yunnan, Hong Kong, Taiwan (Chinese Bird Watching Societies Networks, 2016; GBIF, 2016).

And, amongst those records, the relatively two biggest and also updated ones are:
1). In early April 2015, 5 flocks in total of some 200 Baer's Pochards were counted by the authors, when those birds found inhabiting in reed marsh and pond at Lindian and Taikang of W Heilongjiang, NE China;
2). In early March 2016, Britich senior birder Christophe Heard and the author got a short visit to Jiujiang of N Jiangxi, and saw at least over 150 Baer's Pochards in lakes near Jiujiang; then in mid–March, over 200 individuals counted in the same lakes; moreover, in early June, in a very short passing–by visit to the same location just staying for some 10 minutes, 6 Baer's Pochards seen flying into a small pond.

Anyway, though being treated as a CR bird, it seems that the current appearance of the Baer's Pochard in China showing no remarkable change, compared with its historical distributional range.

(Yumin Guo, Cheng Wen and Fenqi He, Beijing; Jiansheng Lin, Jiangxi)

Red-wattled Lapwing (*Vanellus indicus indicus*) was recorded in Xinjiang

In July 13, 2016, a local person Mr. Garhwal shot the lapwing photos in Mingtiegai area, the location 37°00'N and 75°00'E, about 4300 m, in Taxkorgan County, Kashgar, the west of Xinjiang, who is a worker of wildlife protection station of Taxkorgan.

According to the photos, the white extends from the ear-covered to the chest, it is obviously different from subspecies *Vanellus indicus atronuchalis*, who's white in the neck is surrounded black (Yang et al., 1995). So this species might be the subspecies *Vanellus indicus indicus*, which is a new record of bird subspecies in China.

(Ming Ma, Xinjiang Institute of Ecology and Geography)

The new records of Elliot's Pheasant (*Syrmaticus ellioti*) and Silver Pheasant (*Lophura nycthemera*) in southern Jiangsu Province

The passive infrared camera traps were used in the terrestrial wildlife survey in Yixing and Liyang hilly regions in southern Jiangsu Province during March to November, 2016. The Elliot's Pheasants (*Syrmaticus ellioti*) and Silver Pheasants *(Lophura nycthemera)* were recorded at deciduous broad-leaved forest, evergreen and deciduous broad-leaved mixed forest and moso bamboo forest both in Yixing and Liyang. Referred to literatures, these are the first records of the Elliot's Pheasant and Silver Pheasants in Jiangsu province.

(Jingjing Ding and Qing Chang, Jiangsu)

Unusual incubation behavior and embryonic tolerance of hypothermia in the Sichuan Partridge (*Arborophila rufipectus*)

Temperature affects both avian incubation behavior and embryonic development. Single-sex incubators are often faced with a direct conflict between incubation and foraging. In most species of birds, the optimal temperature for embryo development is between 35.5°C and 38.5°C, and development is suspended below 26°C [i.e. the physiological zero temperature (PZT)]. Incubation may be particularly challenging in colder environments because adults must invest more energy in creating a suitable thermal environment for embryos. To prevent eggs from cooling below PZT, uniparental-incubating birds that breed in cold environments tend to take short bouts off the nests. For example, the Chinese Grouse (*Bonasa sewerzowi*), an endangered galliform endemic to the Qinghai-Tibet Plateau of China, takes 4–7 recesses per day during incubation, and average recess duration is 17.6 min. The female Sichuan Partridges incubated eggs alone, and exhibited an unusual incubation pattern with a low nest attentiveness of ~81.2% over the incubation period, and extended incubation recesses of ~4.5 hr, which lead to long exposures of ~4.2 hr below PZT for developing embryos for each daily recess. In spite of low incubation temperature, the total hatching rate was 88.4%, suggesting that embryonic hypothermia had minimal negative effect on the hatching rate. We found that females prolonged the recess duration significantly in response to high disturbance risk and bad weather. Further work is needed to elucidate the driving factors of the long incubation recesses, and ascertain the physiological basis and molecular mechanisms of Sichuan Partridge embryonic tolerance of hypothermia. This study was carried out at the Laojunshan National Nature Reserve in Sichuan Province, China, and has been published online in the *Journal of Ornithology* on 2 January 2017.

（Yiqiang Fu, Bo Dai, Longying Wen, Benping Chen, Simon Dowell, Zhengwang Zhang）

The role of climate factors in geographic variation in body mass and wing length in a passerine bird

Geographic variation in body size is assumed to reflect adaptation to local environmental

conditions. Although Bergmann's rule is usually sufficient to explain such variation in homeotherms, some exceptions have been documented. The relationship between altitude, latitude and body size, has been well documented for some vertebrate taxa during the past decades. However, relatively little information is available on the effects of climate variables on body size in birds. We collected the data of 267 adult Eurasian tree sparrow (*Passer montanus*) specimens sampled at 48 localities in China's mainland, and further investigated the relationships between two response variables, body mass and wing length, as well as a suit of explanatory variables, i.e. altitude, latitude, mean annual temperature (MAT), annual precipitation (PRC), annual sunshine hours (SUN), average annual wind speed (WS), air pressure (AP) and relative humidity (RH). Our study showed that (1) although the sexes did not differ significantly in body mass, males had longer wings than females; (2) body mass and wing length were positively correlated with altitude but not with latitude; (3) body mass and wing length were negatively correlated with AP and RH, but not significantly correlated with WS. Body mass was positively correlated with SUN and inversely correlated with MAT. Wing length was not correlated with MAT in either sex, but was positively correlated with SUN and negatively correlated with PRC in male sparrows; (4) variation in body mass could be best explained by AP and SUN, whereas variation in wing length could be explained by RH and AP in both sexes. In addition, variation in male sparrows can be explained by SUN, WS and PRC but not in females. Two different proxies of body size, body mass and wing length, correlated with same geographic factors and different climate factors. These differences may reflect selection for heat conservation in the case of body mass, and for efficient flight in the case of wing length. This study has been published in *Avian Research* (doi: 10.1186/s40657-016-0059-9).

(Yanfeng Sun, Mo Li , Yuefeng Wu and Dongming Li, Hebei; Gang Song and Fumin Lei, Beijing)

Flying high: limits to flight performance by sparrows on the Qinghai-Tibet Plateau

Limits to flight performance at high altitude potentially reflect variable constraints deriving from the simultaneous challenges of hypobaric, hypodense and cold air. Differences in flight-related morphology and maximum lifting capacity have been well characterized for different hummingbird species across elevational gradients, but relevant within-species variation has not yet been identified in any bird species. Here we evaluate load-lifting capacity for Eurasian tree sparrow (*Passer montanus*) populations at three different elevations in China, and correlate maximum lifted loads with relevant anatomical features including wing shape, wing size, and heart and lung masses. Sparrows were heavier and possessed more rounded and longer wings at higher elevations; relative heart and lung masses were also greater with altitude, although relative flight muscle mass remained constant. By contrast, maximum lifting capacity relative to body weight declined over the same elevational range, while the effective wing loading in flight (i.e. the ratio of body weight and maximum lifted weight to total wing area) remained constant, suggesting aerodynamic constraints on performance in parallel with enhanced heart and lung masses to offset hypoxic challenge. Mechanical limits to take-off performance may thus be exacerbated at

higher elevations, which may in turn result in behavioral differences in escape responses among populations. This study has been published as cover story in *The Journal of Experimental Biology* (2016, 219: 3642-3648).

(Yanfeng Sun, Yuefeng Wu and Dongming Li, Hebei; Fumin Lei, Beijing; Robert Dudley, USA)

Border fence threat to birds in Altay mountains

The Altay Prefecture is famous of "golden and silver" mountains, and has plenty of birds, including 20 orders, 61 families, 171 genera and about 350 species of birds, which are account for 77.4% in Xinjiang birds and 28.1% in China birds. The area of Chinese Altay Prefecture is 1.179 ten thousand km^2, various and unique natural landscapes for survival and reproduction of birds with better living conditions, and also became an important migration route or stopover of bird. A large number of migratory birds from the south to the Altay Prefecture in spring, they choose the lake, river and wetlands, such as Burultokay lake, Kanas lake, Ertix river and Keketuohai wetlands, they stayed long for 10 to 30 days, on order to replenish energy and seek courtship, and most of the them continue to fly north to breed in Siberia and North Pole.

Recently, more than 1205 kilometers of border fences were constructed along Altay Region, it is the boundary line with Kazakhstan, Russia and Mongolia, with the aim of stopping illegal immigration. It is also hampering the movements of animals, including birds. New fences are gradually heightening and reinforcing, adding roll fences with barbed wire and sharp blades (See pictures). The fence height reached 2.8-3.0 m, diameter of the rolls are 0.75-0.89 m. At begin, we think border fences are only impeded to big mammals, and less to impact the birds. But many experiments indicated our idea is wrong. Nocturnal and ground-dwelling birds are easily influenced by the fence. It is estimated that 9 orders, 13 families, 58 species, accounted for 16.56% of birds were harmed by the fences. We recorded the injured birds in China-Mongolian border, for example, goose (Anser anser), Pintail ducks (Anas acuta) and Daurian Partridge (Perdix dauurica) during 2015 to 2016 (Table 1). Some birds might be hit or get stuck in died on the fences. The majority of bird is belonging to the national key protected species and endemic species in Altay Prefecture, some of them list in the Convention on Migratory Species (CMS).

Table 1 Birds are impacted by the border fences

Order	Recorded species	Number of threatened species	Rate among Altay Prefecture birds (%)
Podicipediformes		2	0.57%
Ciconiiformes		3	0.86%
Anseriformes	Graylag goose (*Anser anser*), Pintail duck (*Anas acuta*)	12	3.42%
Falconiformes		10	2.86%
Galliformes	Daurian Partridge (*Perdix dauurica*)	9	2.57%
Gruiformes	Common Crane (*Grus grus*), Bustard (*Otis tarda*)	12	3.42%
Pteroclidiformes		2	0.57%
Strigiformes	Eagle Owl (*Bubo bubo*)	7	2.00%
Caprimulgiformes		1	0.29%
Total		58	16.56%

(Daoning Wu, Ming Ma, Xinjiang Institute of Ecology and Geography)

Satellite tracking showing a cycle migration route on Ordos Demoiselle Cranes

For quite a time, it is well known that some Demoiselle cranes, *Anthropoides virgo*, found nesting on the Ordos upland and its northern skirt of W Inner Mongolia and western skirt of Ningxia, while, in Paul Johnsgard's work, *Cranes of the World*, this regional flock or subpopulation of the crane is described wintering, separately and independently, in an area on both sides of the Salween river in central NE Myanmar and extending into far W Yunnan of SW China.

Since the beginning of this century, the T–A Nur, No. 1148 Ramsar Site as it used to be the most significant breeding site of the Relict Gull (*Larus relictus*), almost entirely dried out, and, with *Suaeda* community developed, more Demoiselle cranes appeared in the locality and some of them nested there. In July 2015, five adult cranes were captured, being banded and fixed with GPS-GSM transmitter (Type HQBP3622, developed in Hunan of S China), then released.

Amongst those GPS-GSM equiped cranes, one individual (No. DC01) died on September 18 and the body was later on found in a place in central west Orods, some 120 km southwestwards the T–A Nur, and, it seemed that that bird once was attacked by the birds of prey.

All the other four cranes (No. DC02, DC03, DC04, and DC05) started leaving the Ordos upland during a period from September 22 to October 5, and they all choosing Zhongwei of S Ningxia as their first stop for night spending, flying over Gansu on the next day to get into Qinghai, the NE part of the Tibetan Plateau, and spending one night or two nights at Chaka lake shore in Wulan, then, flying directly to Anduo of central N Tibet, where, the No. DC05 individual lost, no longer of any signals transmitted.

The (left) three cranes (No. DC02, DC03, DC04), on October 4, 9 and September 30 respectively, got arrived at Zhongba, a locality right by the northern hill foot of the north slope of Himalayan, roosting at 4500–5100 m, and flying over Himalayan on the next day getting to the upper branch of Ganges river in India, then, on October 8–13, getting arrived at their wintering place in Gujarat of W India. So, roughly, it took some 10–13 days, different in individuals, for those cranes migrating some 4650 km from their breeding and summering habitat to their wintering ground.

The above mentioned three GPS-GSM equiped cranes (No. DC02, DC03, DC04) started their spring migration on March 17, April 5, and March 25, respectively, and they chose an absolutely different route than the way they took in autumn. First, they flew northwestwards into Pakistan, over the Indus river to get into Afghanistan, acrossing the Hindu Kush mountains and roosting in the surroundings of the Aydar Kol Lake in Uzbekistan for 9, 13, and 3 days respectively. Then, two cranes (No. DC02, DC03) got into southern Kazakhstan, flying eastwards along the north slope of Tianshan Mountains, the border of Kazakhstan and Kyrgyzstan, and, on April 10 and 23 respectively, they flying along the Ili valley to get into Xinjiang of NW China and further eastwards into W Inner Mongolia, over two deserts, Badain Jaran and Ulan Buh, finally got back to T–A Nur in Ordos. Whilst, the third crane (No. DC04) stayed in central S Kazakhstan till May 15, took

off again to northeast direction, over the Haanas NR in N Xijiang on May 19, and at last chose Bayankhongor in Mongolia (PRM) for summer spending. It took 36, 26, and 57 days, for these cranes to end their spring migration respectively, and of 6590–6670 km long,

When checking *The Avifauna of Yunnan China* (Vol. I, Non–Passeriformes), it sounds that, until mid–1990s, there had been no record of the Demoiselle Crane reported in Yunnan, while, in the beginning of this century, records of the Demoiselle Crane appeared in far NE Yunnan.

Data presented by those three individuals from the Demoiselle Crane Ordos flock have shown that they choosing quite different route for their migration in spring than in autumn, and the two routes making it somewhat a cycle, and therefore we wonder if other Demoiselle Cranes, both breeders and non–breeders, inhabiting in East Asia would prefer choosing the same route or not. Anyway, this is the beginning of our work, more will be revealed along with the time going.

(Yumin Guo and Fenqi He, Beijing,)

An electrocution case of Saker Falcon with transmitter tag in Xinjiang, west of China

In December 2016, we received a letter from experts of Hungary and Russia, asking us to look for a saker with the transmitter (GPS/GSM tag).

The name is called Chulym of male saker from Russia into Xinjiang in mid October, 2016, has been near Karamay, Shihezi and Urumqi. All information we could find in the Russian raptor website: http://rrrch.ru/en/migration/sakers2016.

Recently, it is abnormal and stops at the southern of Gurbantunggut Desert. We soon got the exact location of the saker (44.994641°N, 85.967712°E) from Mátyás Prommer, probably in Mosuowan nearby. Local people Mr. Xu Jie rushed to the scene, Chulym was found in a foot thick snow, next to the pole. A right leg was lost, and bill, feathers, the outer side of the left shoulder and right leg has burn marks. Under the left leg also holds a gerbil. Could be eating gerbils and it's electrocution. The solar shield on the back looks rather large (see photo).

The saker was tagged in the frame of implementing the Saker Falcon Global Action Plan (GAP) prepared by the Raptors MoU of Convention on the Conservation of Migratory Species of Wild Animals (CMS). One of the flagship proposals of Saker GAP is to tag and track 100 saker falcons across the distribution range in order to learn more about dispersal, habitat use and migration, as well as about the mortality factors. The information collected will contribute to the more efficient conservation of the species. As part of that work, ten juvenile saker falcons were tagged in Khakassia and Tuva, Russia in co-operation and co-financing of CMS, Sibecocenter (RUS), Russian Raptor Research and Conservation Network (RUS), International Association of Falconry, Ecotone (Poland), Herman Ottó Institute (Hungary) and Revír Nonprofit Ltd. (Hungary). Out of the ten

tagged individuals of saker only 2 alive now wintering in Kazakhstan and Mongolia. The rate of loss thus as high as 80%. In two proven cases illegal falcon trapping caused the loss of birds: one bird entangled in nooses on pigeons and perished and in an other case the tag was found and it was clearly cut off the bird. Considering the time and place trapping can likely be blamed for the loss of two other birds, but no proof of that. In one case, the bird was found and kept at a house in Kyrgyzstan, but then local police and coservationists found and released the bird after our warning. One bird disappeared for unknown reason in NW Mongolia and another one in Central China between Lanzhou and Haidong. Finally, that last bird was electrocuted in Gurbantunggut Desert.

According to Mr. Xu Jie, at the beginning of November 2013, in the Junggar Basin he met more than 400 Saker Falcons, a very large number population (about 2 hours watching) at the poles and hills or in the sky. So we think that the Xinjiang is an important wintering area in the Central Asia.

In spite of sporadic information and projects in the last years, we still know very little about breeding and wintering saker populations, their trends, movements and risks across large areas of the species' Central Asian distribution range. It is very important, therefore, to carry out population surveys, carry out regular population monitoring at least in selected project areas, (colour) ringing, satellite tracking, analysing the gathered data and launch targeted conservation programmes especially in China.

(Ming Ma and Jie Xu, Xinjiang Institute of Ecology and Geography;
Mátyás Prommer, Herman Ottó Institute)

Bird diversity and bird strike risk at Zhalantun Genghis Khan Airport

The researchers of Inner Mongolian University investigated the bird diversity in the region of Genghis Khan Airport of Zhalantun and its surrounding area (with a radius of 8 km) at Inner Mongolia from January to December 2015, for purpose of carrying out bird strike prevention work. According to the survey, 82 bird species were recorded, which belong to 31 families and 15 orders. The analysis of bird community structure showed that the highest bird diversity index (0.740) and evenness index (0.819) were found in spring within the airport boundary, the highest dominance indexes (0.683) in winter and the highest average density (2.826 ind/hm^2) in summer. But for the area outside the boundary,the diversity index and the average density were both highest in summer of the wetland (1.576, 28.600 ind/hm^2), the evenness index was highest in winter the grassland (0.902), and the dominance index was highest in winter of residential area (2.113).We reassigned the dangerous value of bird species, and integrated 7 factors to calculate the hazard value depend on the previous studies, including the volume and quantity of birds, the number of occurrences, flight altitude, the distance from the airport, the number of transects occur and whether clustering. The results indicated that there were 14 serious threat species, such as Common Cormorant (*Phalacrocorax carbo*), Tree Sparrow (*Passer montanus*),

Ruddy Shelduck (*Tadorna ferruginea*) and so on. Based on the results, we proposed advices and control measures for avoiding bird strikes of different seasons, areas and species, which provided important and scientific basis for future work at Civil Airport.

(Huanle Zhao, Guisheng Yang, Tong Wang and Fan Yang, Inner Mongolia University)

Taxonomic and functional diversities in island birds

Land-bridge islands created by dam constructions can be viewed as ideal 'natural laboratories' to explore patterns of species diversity and community composition in shaping community assembly. Because species with different ecological functions have various responds to habitat changes, exploring taxonomic and functional aspects of biodiversity simultaneously can thus better understand the processes of community assembly. Here, we analyzed taxonomic and functional alpha and beta diversity to examine community assembly using long-term bird data collected on land-bridge islands in the Thousand Island Lake, a large man-made reservoir in China. In addition, we decomposed beta diversity into spatial turnover and nestedness-resultant components, and related taxonomic and functional dissimilarities to island variables using multiple regression models on distance matrices. Randomization tests were used to assess the strength of the correlations between taxonomic and functional diversity.

Our results revealed taxonomic and functional alpha diversity of birds have clear relationships with island area, but not isolation. The taxonomic nestedness-resultant and turnover components increased and decreased with difference in area, respectively, but functional counterparts did not. By partitioning beta diversity, we found low levels of overall taxonomic and functional beta diversity among islands (i.e. spatial turnover). The functional nestedness-resultant component dominates overall functional beta diversity, whereas taxonomic turnover is the dominant component for taxonomic beta diversity. The simulation showed that functional alpha and beta diversity were significantly correlated with taxonomic diversity, and the observed values of correlations were significantly different from null expectations of random extinction. Our assessment of island bird assemblages suggested that selective extinction, the deterministic process of environmental filtering, drives taxonomic and functional diversity. The contrasting turnover and nestedness-resultant components of taxonomic and functional beta diversity demonstrate the importance of considering the multifaceted nature of biodiversity when examining community assembly.

These studies are published in *Journal of Animal Ecology* (doi: 10.1111/1365-2656.12478) and *PLoS ONE* (doi: 10.1371/journal.pone.0127692).

(Xingfeng Si and Ping Ding, Zhejiang University)

Phylogenetic relationships, song and distribution of the endangered Rufous-headed Robin (*Larvivora ruficeps*)

The Rufous-headed Robin (*Larvivora ruficeps*) is one of the world's rarest and least known birds. We summarize the known records since it was first described in 1905 from Shaanxi Province, central China. All subsequent Chinese records are from seven adjacent localities in nearby Sichuan Province. We studied its phylogenetic position for the first time using mitochondrial and nuclear markers for all species of *Larvivora* and a broad selection of other species in the family Muscicapidae. Our results confirmed that *L. ruficeps* is appropriately placed in the genus *Larvivora*, and suggested that it is sister to the Rufous-tailed Robin (*L. sibilans*), with these two forming a sister clade to a clade comprising both the Japanese Robin (*L. akahige*) and Ryukyu Robin (*L. komadori*). Siberian Blue Robin (*L. cyane*) and Indian Blue Robin (*L. brunnea*) form the sister clade to the other *Larvivora* species. In contrast, song analyses indicated that the song of *L. ruficeps* is most similar to that of *L. komadori*, whereas the song of *L. sibilans* is relatively more similar to that of *L. akahige*, and songs of *L. cyane* and *L. brunnea* closely resemble each other. We used ecological niche modelling to estimate the suitable habitats of *L. ruficeps* based on the records from breeding grounds, suggesting that north and central Sichuan, south Gansu, south Shaanxi and south-east Tibet are likely to contain the most suitable habitats for this species.

(Min Zhao, Ruocheng Hu, Chao Zhao, Yan Hao, Fumin Lei and Yanhua Qu, Beijing;
Per Alström, Sweden)

Mobile hotspots and refugia of avian diversity in the mountains of southwest China under past and contemporary global climate change

Aim: To identify hotspots of endemic and non-endemic avian diversity in the mountains of southwest China and delineate biodiversity corridors that connect the faunas of northern and southern Asia. To understand how biodiversity and endemism in this region has been maintained through palaeoclimate change.

Location: The mountains of southwest China, spanning an elevational gradient >7000 m.

Methods: We used the distributional data of 752 breeding birds to investigate current patterns of diversity across elevational and geographic space. We simulated species richness under palaeoclimate models of global temperature change, assessing changes in species richness.

Results: Contemporary species richness of non-endemic birds peaked at 800-1800 m elevation, while endemic richness peaked at 2000-3000 m. Richness of non-endemic birds was highest in the southern Hengduan Mountains and Yungui Plateau, while endemic richness peaked further north, extending into the mountains along the western edge of the Sichuan Basin. Under global warming models, species richness remained high throughout the Hengduan region. Under global cooling models, the Sichuan Basin showed increased richness.

Conclusions: Endemism peaked in the mountains along the western edge of the Sichuan Basin,

highlighting the importance of this region in promoting and maintaining diversity. This region has likely functioned as a biodiversity corridor, bridging the Palearctic and Oriental biotas to the north and south. Climate simulations suggest that the mountains of southwest China can accommodate upslope range shifts in response to warming, but low elevation specialists may have experienced increased extinction probabilities during cold periods in the recent past, which may in part explain the current mid-elevation diversity peak. During glacial periods the Sichuan Basin likely served as a warm refugium for montane birds. Steep environmental heterogeneity has been key to maintaining high diversity and endemism in the region during palaeoclimate change. These same features will likely shape the effects of future climate change on biodiversity in the region.

(Yongjie Wu and Jianghong Ran, Sichuan University)

Updated progress of tracking study on Beijing swifts

On May 21st of 2016, with the close cooperation of the administrative office of the Summer Palace, China Birdwatching Society achieved Beijing swift banding at Kuoru pavilion for the 9th year. 65 volunteers from both domestic and abroad participated in the swift retrieve and banding. From 2:30am to 8am, 124 Common Swifts (*Apus apus pekinensis*) were trapped including 65 individuals banded before. Out of the 65 individuals, 45 were retrieved for the first time, 14 for the second time, 5 for the third time, 1for the fourth time. The retrieve rate was as high as 52.4%. 58 new trapped ones were banded.

Amongst the retrieved 65 swifts, there were 10 with light-sensitive geo-locator on each fitted in year 2014 (3 individuals) and year 2015 (7 individuals). The other 46 swifts were fitted with light-sensitive geo-locator, GPS tracking device or vibrator locator separately. By recording the moving status of the swifts, the new locators can help us to get more detailed info on migration patterns and flying status of the swifts. Hopefully they fly back safely in 2017 and bring us more ecology data on their migration and wintering.

(Xinru Zhao and Jianping Fu, China Birdwatching Society)

Ph.D Thesis

Breeding strategy and adaptability of the Hair-Crested Drongo

Breeding strategy of birds has an important influence on individual's life breeding success, which in turn may have a profound influence on population dynamics and the direction of evolution. Therefore, the study on the breeding strategy of birds has always been a hot issue in behavioral ecology and evolutionary ecology. As individuals usually differ in conditions and experience different contexts, they may determine breeding strategy based on their own condition and the contexts that they experience in order to maximize their fitness. The population of the Hair-

crested Drongo (*Dicrurus hottentottus*) in Dongzhai National Nature Reserve, Henan, China, was monitored from 2010 to 2015. This is a medium sized passerine which is widely distributed in the south and east of Asia. We investigated whether hair-crested drongos adopting the best breeding strategy based on their own condition and the environmental and/or social contexts that they experienced, whether individuals benefit from their breeding strategy in terms of obtaining a better breeding performance. The main results were as follows:

1. Hair-crested Drongos arrived Dongzhai National Nature Reserve on late April, and started breeding one week later when territory was established. They laid eggs in late May and early June, chicks hatched in June and fledged around early July. Both parents attended all the breeding activities, including nesting, incubation and feeding chicks. Modal clutch size was four (75.64%, range 3-5). Nest-construction, incubation and nestling feeding period lasted for 10–30 days, 18–21 days and 17–18 days, respectively. The breeding success was 67.5% for first clutches. Predation during the chick period was the main reason of nest failure. 18.3% breeding pairs re-nested after the first breeding attempt failed. The primary sex ratio and secondary sex ratio were not significantly different from unity at population level or at individual level, respectively. 9.28% chicks were extra-pair offspring and the sex ratio showed no parity at population level. Both males and females were faithful to their territories and partners. Males were more faithful to their territories than females, but their natal dispersal is further than females.

2. We studied the influence of mate retention and breeding experience on breeding performance of the Hair-crested Drongo by carrying out both cross-sectional and longitudinal analyses. Pairs with longer pair-bond duration did not fledge more young or fledglings of better body condition, nor did they produce more or better fledglings than newly formed pairs consisting of at least one experienced breeder, i.e. individuals that had bred before. Individuals produced fewer fledglings when they were paired with an inexperienced breeder, especially when females were paired with inexperienced males. Although clutch size was not affected by mate retention or breeding experience, pairs consisting of inexperienced breeder(s) had a relatively higher predation rate of eggs and/or nestlings, because they may be less effective in nest defence. The onset of breeding was advanced in the year following mate retention, but not in the second year thereafter, when pairs still remained together. Furthermore, only the breeding experience of the male determined the onset of breeding: pairs consisting of inexperienced males bred later in the season. Our results suggest that breeding experience, and particularly the breeding experience of the male, but not mate retention, is important in determining the breeding performance of the hair-crested drongo.

3. Hair-crested Drongos produced fewer fledglings over the breeding season and this trend is consistent among years. By comparing the number of fledglings produced by the same perennial pair in the year of their earlier breeding with what they produced in the year of later breeding, we show that early breeders, which are in good quality and always laid earlier in the different years relative to the population mean, produced more fledglings than later breeders. Although there was no difference in clutch sizes between early breeders and later breeders, early breeders tended to have a higher survival rate of egg to fledgling. However, females of perennial pairs

produced similar number of fledglings when they bred later compared to what they produced in the other years. This pattern was true for both early and later breeders, which consistently started breeding earlier or later than population mean, respectively. Our results supported the "quality hypothesis", but not the "date hypothesis". The seasonal decline reproductive success in the Hair-crested Drongo, at least in perennial pairs, was due to the difference of quality between early breeders and later breeders.

4. Extra-pair mating opportunities during the incubation period were limited to nearby females in the Hair-crested Drongo. We exploring whether the variation in paternal care is explained by male attractiveness and the number of local fertile females, and their interaction. Our results show that long-tarsus males, who were more likely to sire extra-pair offspring, incubated less than non-attractive males by recessing longer between incubation bouts, but only when more neighbouring females were fertile. Females increased their incubation attendance to partially compensate for the decreased incubation attendance of their attractive partners, but this accounted for only 79% reduced effort. Thus, male Hair-crested Drongos reduce their parental care when they are more attractive, but only when they have more opportunities to find fertile extra-pair partners. This result highlights the need for future studies to quantify available mating opportunities to investigate how individual attractiveness contributes to shaping the optimal investment allocation for males between parenting and mating efforts.

5. Hair-crested Drongos dismantle their nests after breeding. As most of the nests that were not dismantled remain intact till the next breeding season, we provided the first experimental test of whether nest-dismantling serves a purpose of reducing breeding-site competition from conspecifics that use the presence of a nest as a cue to select suitable breeding sites for the next year. Our results showed that successful pairs, which usually reuse their breeding sites, were more likely to dismantle their nests and dismantle their nests faster compared to failed breeding pairs which often did not reuse their original breeding sites. Experimentally strengthened nests that were placed in successful breeding sites attracted prospectors and tended to result in a higher reuse rate of breeding sites in the next year. However, the replacement rate of strengthened-nest owners in the next year was low and not higher than pairs that dismantled their nest. Furthermore, strengthened-nest owners did not initiate breeding later or produce fewer fledglings due to the potential higher breeding-site competition. Altogether, our results partially support the breeding-site competition hypothesis. We suggest that nest-dismantling may only be beneficial to hair-crested drongos when breeding-site competition is very intense.

(Lei LV, Beijing Normal University; Supervisors: Zhengwang Zhang and Jan Komdeur)

Molecular Evolution of Toll-like receptors in birds

Toll-like receptors (TLRs) are a vital member of animal innate immune system, linking the innate immune system and adaptive immune system. The mechanism of directly binding pathogens is expected to directly influence molecular evolution of TLRs due to selective pressure posed by patho-

gens. The big-bang radiation of birds in K-Pg transition has generated the diversity of extant birds, representing extraordinary diversity in morphology, ecology and behavior. Different birds occupy different ecological niches, which may lead to adaptive transitions in the immune system in a way that natural selection has left signatures on immune genes. Understanding potential evolutionary patterns of immune genes will facilitate our knowledge of potential causes and consequences of microevolution processes. Extending these processes in space and time lead to cumulative changes that are termed as "macroevolution", notably related to speciation and life history evolution. One of the principal tools to understand large-scale macroevolution is phylogenetic comparative analysis (PCM). PCM controls the relatedness among species, allowing the exploration the relationship between traits across groups of species and large-scale evolutionary patterns.

In the present study, I studied for molecular evolution in TLRs in Neogathaes, the largest avian clade that gives arise to major diversity of landbirds and waterbirds. This study was aimed to uncover the selective pattern in non-model species in the context of adaptive radiation. PCM was used to search for the bond between microevolution of the immune system and ecological variables traits in the aspects of morphology, geographical distribution and life history. I sequenced ectodomains of six TLR genes from100 avian species representing almost all major clades of Neogathaes. I analyzed patterns of molecular selection and their causual relationships with life history traits using several cutting-edge molecular evolutionary analyses. I found episodic diversifying selection in TLRs and positive selection sites were detected in every TLR gene. Gene conversion limits divergence of TLR1LA and TLR1LB, which may be due to genome size simplification in order to adapt the high-energy consumption flight. Gene conversion and gene duplication, followed by the subsequent divergence of the copies, are important processes in immune gene evolution. I further found significant trends between the ratios of synonymous versus non-synonymous, ω with several life history traits. Species, which is altrical, large body, long-distance migrant, and aquatic foraging, tends to have elevated ω values. This pattern demonstrates some key ecological factors that may associate with pathogen-mediated selective pressure and in turn influenced molecular evolution in the innate immunity genes.

The basal clade of Neogathaes is Galloanserae, including Antidae (ducks, geese and swans), forming core diversity of the Anseriformes. This family has the most globally distributed and long-distance migratory waterbirds. Importantly, they are hosts of many pathogens, e.g. virus and bacteria, and thus a targeting group for Animal Surveillance Program for Emerging and Zoonotic Diseases. I first analyzed patterns of intraspecific polymorphism and molecular evolution in TLR5 and TLRL7. Besides, I conducted the PCM to investigate global evolutionary trends of TLR genes and several ecological traits. My results suggested that the polymorphism of TLR5 and TLR7 were low and they were under episodic diversifying selection as the Neoaves TLRs. Positive selection site were detected in ectodomains. Further I found significant trends that elevated ω value were related to species with more open nests or nest sites.

This study reveals avian evolutionary mode of TLRs across higher taxa and demonstrates correlations between ecological traits and evolutionary changes in TLRs. Overall, this study

presents some important evolutionary patterns of TLRs, a key compoment of innate immunity, which was mediated by macroevolutionary patterns by avian hosts.

(Zhechun Zhang, Sun Yat-sen University; Supervisor: Yang Liu)

Persistent organic pollutants (POPs)

Persistent organic pollutants (POPs) are natural or synthetic organic chemicals having high toxicity, degradation-resistant and lipophilicity. These chemicals have long-lives in soils, sediments, air or biota. Furthermore, they could be transported to different trophic levels through food webs and accumulated in tissues of living organism in high trophic levels via biological cascade leading to undesirable effects. Meanwhile, many structures of those compounds are similar to hormone, so they would adversely affect the development of productive and nervous system, and also have effects on behaviours by interfering with normal endocrine functions.

East Asian-Australasian Flyway (EAAF) supports the highest numbers of shorebirds species and individuals, but also includes the highest number of threatened species and declining population. The major cause of population declines on the EAAF is the loss and degeneration of habitat areas, which increased the risk of birds' exposure to polluted environment. Most shorebirds consume invertebrates at the intertidal wetlands and farmlands where normally have more contamination of POPs, so that shorebirds might get POPs from food in these areas. Considering that POPs are widespread and have potential threaten to migratory birds, it is necessary to qualify the contamination of POPs in shorebirds and monitor the status of POPs contaminated in the environment of EAAF. However, to our knowledge, there is no study about concentration of POPs in shorebirds on EAAF.

This study focused on the two species of long migration birds on EAAF: the Great Knots (*Calidirs tenuirostris*) and the red knot (*C. canutus*). The study paid attention to the contamination of different POPs in muscles and adipose tissues of great knots and red knots, and POPs in feathers of different ages of Great Knots. Combining with the life cycle of shorebirds, this study discussed the potential risks of POPs for shorebirds on EAAF. The main conclusions of this study are listed as follows.

1) Among 19 organochlorine pesticides (OCPs) examined in this study, a total of 10 OCPs were detected in tissues of Great Knots and 11 OCPs were found in red knots. The highest concentration of pollutant in muscles of Great Knots is p,p'-DDE as well as muscle samples and adipose tissue samples of Red Knot, while endosulfan sulfate and/or p,p'-DDT had the highest concentration in adipose tissue samples of Great Knots. Dieldrin had been only detected in samples of Red Knots, while endosulfan I were only found in samples of Great Knot, even if they were both at low level.

2) Paired *T*-test indicated that residues of α-HCH, endosulfan sulfate and/or p,p'-DDT were generally higher in adipose tissues of Great Knots than muscles, and residues of α-HCH are higher in fat of Red Knots as well, suggesting organic pollutants mainly concentrated in adipose tissue

rather than muscle.

3) In present study, the relationship between contamination of POPs in muscles and the lipid ratio in muscles of different individuals were analyzed. Results showed that residues were significant native with lipid ratio, meaning shorebirds having less fat would have much more pollution and might be more vulnerable to POPs toxicity.

4) There were 18 POPs had been detected in feathers of Great Knots, including 6 kinds of organochlorine pesticides, 5 kinds of congener polybrominated diphenyl ethers (PBDEs), and 7 species of phosphate flame retardants (PFRs), and concentration of polychlorinated biphenyls (PCBs) in all of the feather samples were lower than limit quantification. Residues of some POPs in old feathers were higher than new feathers, indicating that external contamination is the main source of the pollutants in the feathers, so feathers exposed longer period in polluted environment would concentrate more pollution. Among 18 POPs detected in feathers, residues of PFRs were higher than other POPs, suggesting that there are more PFRs in the environment on EAAF, which might be harmful to migratory shorebirds.

In summary, results of this study indicated that POPs might be a potentially serious, but overlooked, threat to shorebirds along the EAAF. Contamination of POPs in different tissues of Great Knots and Red Knots on EAAF examined in this study could be the foundation of future studies about the effects of POPs on migratory shorebirds.

(Xin Jin, Fudan University; Supervisor: Zhijun Ma)

Bird Banding Reports

Bird banding newsletter of Beidaihe bird banding station in 2016

Beidaihe Bird Banding station started the spring bird banding from 27 March till 13 June, lasting for 79 days, and the autumn banding began from 1 September and ended on 2 December, lasting for 92 days. A total of 11340 individuals of 94 species of birds were banded. Our bird station successfully hosted the 2016 spring bird training course sponsored by the national bird banding center, during the training course, and we got technical exchanges and cooperation from experts from Sweden and the Netherlands. In April, Mr. Bo-Lernnat-Pedersen and Mr. Jan-Visser exchanged bird banding technology for three weeks, and achieved good results.

Based on past experience, our bird banding station continued to seek breakthroughs in technology in 2016, and obtained a variety of newly banded species like Black throated accentor (*Prunella atrogularis*). Since 1992 to December 2016, bird banding stations in Qinhuangdao City have banded 17 orders, 49 families, 305 specieces, and 248524 individuals.

In 2016, the dominant species was Pallaces leaf warbler (*Phylloscopus proregulus,* 1423), Orange-flanked Bush Robin (*Tarsiger cyanurus,* 896), Yellow browed Warbler (*Phylloscopus inornatus,*

1929), Black-faceed Bunting (*Emberiza spodocephala,* 722), Little Bunting (*Emberiza pusilla,* 1428).

As for the number of migratory bird banding in Qinhuangdao, the largest proportion was passerine birds, summing up to 15 families, 84 species, 11283 birds, accounting for 99.50% of the total, while the non-passerine birds were 4 families, 4 orders, 9 species and 57 birds, accounting for 0.50% of the total. Sylviidae birds had the most banding, 21 species and 4987 inds., accounting for 43.98%; Fringillidae birds followed, 17 species and 3130 inds., accounting for 27.60%; Thrush birds had 13 species and 1177 inds., accounting for 10.38%; Corvidae birds had only 1 species and 637 inds., accounting for 5.61%; Zosteropidae birds had 2342 inds., accounting for 3.01% of the total banding.

（Jinguang Yang, Zhongwen Yang, and Jingbo Wang, Beidaihe Bird Banding Station）

Bird banding newsletter of Dongzai national nature reserve

Bird banding work was conducted in Dongzai national nature reserve from Nov. 10 to Nov. 26, 2016, lasting for 14 days. A total of 2 orders, 11 families, 24 species, and 524 inds. were banded. Among the banded birds, 2 orders, 11 families, 24 species and 56 inds. were recaptured. Besides, 2 Yellow-throated Bunting（*Emberiza elegans*）were home returners.

（Dongzai National Nature Reserve, Henan Province）

Bird banding newsletter of Liaoning Laotieshan bird banding station in 2016

The bird banding work was conducted in Liaoning Laotieshan bird banding station in autumn from 10 September to 3 November， lasting 54 days. A total of 2139 birds of 42 species, including 47 raptors were banded. 131 birds were recapture and 3 were home returners.

（Xiaoping Wang, Liaoning Laotieshan bird banding station）

Bird banding newsletter of Qingfeng bird banding station in 2016

The bird banding work was conducted in Qingfeng bird banding station in spring from 1 March to 31 May and in autumn from 15 August to 15 November. A total of 17553 birds of 72 species, 21 families, 5 orders were banded and 83 birds of 14 species were home returners, 82 birds of 14 species were recaptures.

Comparing the number of the birds banded in spring and antumn, Passeriformes are the most, 17358 birds of 61 species, 17 families were banded, and the percentage is 99%. There are 4 orders of non-Passeriformes, 195 birds of 11 species, 4 families, and the percentage is 1%. The birds of Emberizidae were the most, then the Fringillidae, Turdidae, Prunellidae, Sylviidae, Laniidae, Muscicapidae and Motacillidae.

The total of the banded birds in this spring is the least compare to past years. One of the reasons is the climatic change, and the other is the change of the banding staff.

(Yanlan Yang, Qingfeng bird banding station)

Bird banding newsletter of Shuanghe bird banding station in 2016

A total of 1482 birds of 15 families were banded in spring and autumn in 2016, lasting for 36 days: 8 birds of Alcedinidae, 11 birds of Picidae, 8 birds of Motacillidae, 5 birds of Laniidae, 29 birds of Corvidae, 31 birds of Prunellidae, 67 birds of turdidae, 4 birds of flycatcher, 121 birds of Sylviidae, 4 birds of Regulidae, 143 birds of Aegithalidae, 155 birds of Paridae, 5 birds of Sittidae, 710 birds of fringillidae, 178 birds of Emberizidae. The 5 families with the most number of birds are Fringillidae, Emberizidae, Aegithalidae, Paridae and Sylviidae. The Regulidae is newly increased compared to 2015.

（Peng Cheng, Heilongjiang Shuanghe National Natural Reserve Area Management Bureau）

Bird banding newsletter of Gaofeng bird banding station in 2016

Bird banding was conducted in Gaofeng bird banding station in Spring from 15 March to 31 May and from 15 August to 10 December in Autumn, lasting 118 days.

A total of 8247 birds of 95 species were banded, including 3421 birds of 81 species in spring and 4826 birds of 82 species in autumn.
Since 1998 when the station started to band bird, till the end of December in 2016, a total of 251 species 53 families 17 orders were found and 292109 birds of 193 species 47 families 16 orders were banded.

According to the banding amount, the number of birds slightly increased compared to 4827 birds of 2015.

Only 3 kinds of birds more than 200 in spring were banded: Red-flanked Bush Robin (*Tarsiger cyanurus,* 1119)，Yellow-browed Warbler (*Phylloscopus inornatus,* 395)，Prunella montanella (*Mountain Accentor,* 238).

Only 4 species of birds more than 200 in autumn: Common Redpoll (*Carduelis flammea,* 2016), Brambling (*Fringilla montifringilla,* 310), Yellow-browed Warbler (*Phylloscopus inornatus,* 275)，Prunella montanella (*Mountain Accentor,* 260).

Yellow-browed Warbler was the only dominant species in spring and autumn in 2016 since 2001 at the Gaofeng bird banding station.

(Xianda Li and Kejian Fang, Gaofeng bird banding station,)

Bird banding outcomes in Jiangxi Qiyunshan NNR

Since 2008, bird banding activities have been continuously conducted in Jiangxi Qiyunshan NNR at nighttime. During 2008-2016, totally 28082 birds were banded, in which Ardeidae birds account for 43.4%. Most abundant species include *Ardeola bacchus* (9321 inds.), *Yuhina castaniceps* (3003 inds.), *Lanius cristatus* (2134 inds.) and *Ixobrychus sinensis* (1773 inds.), accounting for 57.8% of the total birds banded. 15 species of Catagory II Natianal Protected Animal were banded, including *Centropus bengalensi*, *Pitta nympha*, *Otus sunia*, *Otus bakkamoena* and *Accipiter virgatus*. Totally 4 birds have been recovered, including one *Luscinia cyane* banded in Japan. The bird banding activities have facilitated the birds resources monitoring and public awareness, and provided scientific support for bird population conservation and management.

(Huimin Chen, Jiangxi Qiyunshan NNR)

Satellite tracking of Swan Geese (*Anser cygnoides*)

From November, 2014 to March, 2016, 5 Swan Geese were banded and installed GPS trackers on the back of bodies, 4 individuals were tracked successfully and the migration routes were obtained. One individual completed the spring and fall migration from breeding site to wintering site, and 3 individuals just accomplished the spring migration from wintering site to breeding site. The satellite tracking data indicated that the breeding site of the tracked Swan Geese were located in the north or west area of the east Inner Mongolia in China and the east of Mongolia. In spring migration of the Swan Geese, 3 individuals selected to fly across the Bohai Sea to the coast of Liaodong Peninsula after leaving the wintering ground, the other one chose fully inland flight. The fall migration routes are much various comparing with spring migration routes, and the Yalu River Estuary is treated as the significantly important stopover site. Furthermore, 1 Swan Goose moved unformly to the coast of Fujian Province after a short break at Yalu River Estuary, and then location data disappeared. We doubted that the Swan Goose had been killed, which hinted that there existed illegal poaching at Yalu River Estuary.

(Jiahui Xu, Fawen Qian, Institute of Forest Ecology, Environment and Protection, CAF)

Training courses on wildlife endemic disease active surveillance and asseriformes banding technology of 2016 were held in Inner Mongolia

"Training Courses on Wildlife Endemic Disease Active Surveillance and Passeriformes Banding Technology of 2016" were held in Inner Mongolia. The main topics of the training class included wildlife endemic disease surveillance and the method of how to collect to sample, the knowledge of wildlife rescue, ornithology knowledge, bird classification and identification, birds banding database management, the application of satellite-tracking in migration researches and color mark made and so on. 25 Trainee were took part in the banding examination. 70 banders from Heilongjiang, Inner Mongolia, Hebei, Shandong, Henan, Jiangxi, Hubei, Yunnan and Great Khingan attended the training class.

(Lixia Chen, Guogang Zhang, Jun Lu, National Bird Banding Center of China)

News and Notes

The progress of the national bird monitoring program in China

Since 2011, in order to drive and develop the build of monitoring network in the country, Nanjing Institute of Environmental Sciences, Ministry of Environment Protection of China has established a national bird biodiversity monitoring trial program. By the end of 2016, there were 350 bird survey sample areas (counties) in 31 provinces. There were about 2000 transect lines, and 1300 survey points in the bird monitoring program. Each year, in total of about 120 participating units and 2000 people have participated in field investigation nationwide. We have scored remarkable achievements in the areas of monitoring method, monitoring team building, which established a relatively mature biodiversity monitoring technology standards and released the biodiversity monitoring technical guidance (bird) and completed the training manuals of bird monitoring.

By the end of 2015, we have recorded 970 species, more than 70% of China's bird species (1371 species). The results indicated that there was no obvious change in breeding bird and inland wetlands waterbirds. Nevertheless, through the data analysis of seacoast wetland waterbirds, their populations were in declining trend among the 12 sample areas.

（Peng Cui, Fan Yong, Wenwen Zhang， Nanjing Institute of Environmental Sciences, Ministry of Environment Protection of China）

The progress of nature reserves in China

Environmental protection in China can be date back at least to more than 2200 years ago, i.e. the Qin Dynasty (221-207 BCE), and the mountain areas were preserved as imperial hunting reserves and temple grounds, and such "protected areas" were mainly private "gardens". Modern China has been influenced by foreign conservation concepts and has followed the public protected area approach in the middle of last century.

However, the term of "protected area" was rather new in China. Five scientists provided proposal to the central government to set aside areas to establish nature reserves to provide refuges to natural forests in 1956. In consequence, the *Plan of Natural Forest Nature Reserve Construction* was issued by the central government in 1956, providing forestry standards & boundaries for 40 natural forest nature reserves in 15 provinces, and Dinghushan Nature Reserve in Guangdong province, the first protected area in China, was established in the same year.

By the end of 2016, in total 2,740 nature reserves had been established with an area of about 1.47 million km^2, accounting for c. 14.8% of the land area, including 428 National Nature Reserves with an area of 0.96 million km^2.

In total 60 years have passed since the first protected area established in China, and it offered

protection for 90.5% of the terrestrial ecosystem types, about 50% of the nature wetlands, 85% of the wildlife populations, 65% of higher plant communities, 20% of the natural forests, and 30% desert. At the same time, the important habitats of more than 300 endangered wildlife species and over 130 endangered plant species are under protection.

（Jiliang Xu, Beijing Forest University）

China Birdwatching Society achieved synchronized wetland bird survey in Beijing area for the 13th year

On March 18th, 19th and October 22nd, 23rd of 2016, China Birdwatching Society (previously Beijing Birdwatching Society) achieved synchronized wetland bird survey both in spring and in autumn within Beijing area. That was the 13th year to execute the annual survey since the kick-off in the autumn of 2003. Based on the survey year after year, we have got large amount of basic data to monitor the wetland bird migration and distribution, which is useful to wetland protection and disease control.

(Yi Cai and Jianping Fu, China Birdwatching Society)

Satellite tags fitted on Beijing Cuckoos sent cack important info for the first time

With close collaboration between China Birdwatching Society, Beijing Wildlife Rescue & Rehabilitation Centre and British Trust Ornithology (BTO), the satellite tracking project on Beijing cuckoos was implemented by the end of May 2016. The project team fitted tags on five cuckoos at three sites in Beijing including Hanshiqiao Wetland, Cuihu Urban Wetland Park and Yeyahu National Wetland Reserve. Three cuckoos spent the summer in Beijing, one to Lake Baikal and one to the China-Russia border. From the signal sent back by the satellite tags on present active three cuckoos, we got info about the cuckoos' migration routes and their wintering sites for the first time. After the breeding season in Beijing and Russia, the three cuckoos crossed South Asia and Arabian Sea separately, then one by one, arrived in Africa and flew over the equator into the Southern Hemisphere.

（Terry and Xiaoru Hou, China Birdwatching Society）

Eleven Birdwatching Organizations from China Will Collaborate on Swallow & Swift Survey and Protection Project

Collaborated together in 2016, China Birdwatching Society, Shenzhen Birdwatching Society, Hongkong Birdwatching Society and Heart Rural environmental Protection on Promotion schemed the Swallow & Swift Survey and Protection Project in china. So far eleven birdwatching organizations from different provinces, cities or regions joined in, which were exactly located in

eastern, western, southern, northern and central China. The project will be launched in 2017 for synchronized survey on swallow & swift and their nests.

（Jianping Fu, China Birdwatching Society）

Beijing College & University Birdwatching Race Entered the 15th Year

The 15th Beijing College & University Birdwatching Race was successfully held on Nov. 5th, 2016 at Yeyahu National Wetland Reserve in Yanqing district of Beijing. The 1st Beijing College & University Birdwatching Race in 2002 was also held here. From then on, each year by the end of October or at the beginning of November, the race would be conducted on time at the same place. This has become into an important competition not only attracts the students but also noted by more and more civil birdwatchers. The race helped to spread birdwatching into the campuses in China, promoted the birdwatching activities bloom countrywide. China Birdwatching Society hosted this annual race from 2009.

(Xiaoxing Chen and Jianping Fu, China Birdwatching Society)

The 11th congress of the European Ornithologists' Union will be held at Turku, Finland

Organized by Turku University and the European Ornithologists' Union, The 11th congress of the European Ornithologists' Union will be held at Turku, southeast Finland on 18-22 August 2017. In a three-day scientific program, it consist of 6 plenary talks, 10 sessions of pre-selected symposia (including some advanced and classical field in ornithology: Avian genome, bird social information use in birds, bird dispersal, ecophysiological adaptations of migrants and residents, avian malaria, avian navigation and orientation, the evolution of avian coloration, conservation, Orientation and navigation of birds, the form and functions of birds' nests), 20 sessions of oral presentations, and 2 poster sessions. Contributed abstract submission will be closed by 28 February 2017. Early-bird registration will be open on 1 March 2017. More and detailed information can be checked at the congress website (http://www.utu.fi/en/sites/eou2017/Pages/home.aspx)

（Yang Liu, Sun Yat-sen University）

American Ornithology 2017 will be held at East Lasing, Michigan, USA

The American Ornithology, 2017, the joint meeting of American Ornithological Society (135th Stated Meeting) and Society of Canadian Ornithologists (35th Stated Meeting) will be held at East Lansing, Michigan State, on July 31, 2017 - August 05, 2017. The theme for the meeting is Birds in the Anthropocene. Meeting organizers seek to have a diversity of thematic sessions that provide in-depth exploration of timely topics and highlight important new advances in ornithological research, especially understanding how individuals, populations and communities respond

to novel environments and what conservation strategies to implement in a rapidly evolving world. Contributed abstract submission will be closed by 1 April 2017. Early-bird registration is yet announced. More and detailed information can be found at the congress website (http://aossco2017.fw.msu.edu/).

（Yang Liu, Sun Yat-sen University ）

Publications

Studies on Birds of Karst Regions in Southwest Guangxi

As the main karst distribution area, Southwest China is one of the world's largest karst straight out of the zone. The karst area of Guangxi is an important part of southwest China karst area. In November 2016, a new book “Studies on birds of karst regions in southwest Guangxi” by Prof. Zhou Fang and his research team in Guangxi University has been published by the Science Press in Beijing. This book contains the known distribution of birds in this area, a total of 503 species, including 50 species (subspecies) were the new records of Guangxi birds.

(Fang Zhou, Zhou Lu and Aiwu Jiang, Guangxi University)

The Pheasants and Breeding Techniques of China

This new book has been compiled by two experts of pheasant breeding, Mr John Corder is the Vice President of World Pheasant Association, Ms. Jing Zhang was head of the pheasant breeding programme of Beijing Zoo. The first part of the book, "the world's pheasant classes", introduces 51 species of precious pheasants with profile and photos, which also contains some information of subspecies, geographic distribution, habitat and captive breeding and other information. It also presents the brief history of pheasant rearing and breeding. The second part, "caged pheasants class", presents in detail the techniques of captive breeding of pheasants, including site planning, cage design, prevention and control of predators, breeding technology, individual archives preservation and main points of animal capture and transportation, medical and health care, etc.

(Jing Zhang, Beijing Zoo)

The Field Guide of Chinese Birds (the Birds of Prey)

This new book was compiled by Ye Song and Cheng Wen and published by Fujian Strait Publishing House in October 2016. It include introduction of the birds of prey in China including identification of the point, ecological habits, distribution range, etc. More than 490 beautiful photos collected, including male and female, young, subspecies, color difference, regional difference of the raptors and owls. Totally 98 species in 5 families, 3 orders of birds or prey were described.

(Zhengwang Zhang, Beijing)

The publication of *Extraordinary Birds* (Chinese version)

Authored by Dr. Paul Sweet, a curator of the ornithological department of American Museum of Natural History (AMNH), the *Extraordinary Birds* illustrates representative artworks from 40 most important booked collected by AMNH and their underlying stories in early ornithological histories in Europe and North America. The book's Chinese edition was translated by Dan Liang, a PhD student in ornithology at Sun Yat-sen University and published by Chongqing University Press recently.

（Yang Liu, Sun Yat-sen University）

Announcement

The First Round Notice of the 14th China Ornithology Congress (COC)

According to the decision made by the council meeting of China Ornithological Society in Kunming in July 2016, the 14th China Ornithological Congress (COC) will be held from September 21 to 24th, 2017 in Xi'an of Shaanxi Province. This conference will be organized by China Ornithological Society, and hosted by Shaanxi Institute of Zoology and Shaanxi Normal University. During the conference, the 13th Kingfisher Forum (the student conference on ornithology) will be held. The theme of COC will be bird behavior, ecological adaptation and evolution. The venue of the conference will be on the Yanta campus of Shaanxi Normal University. A field visit to Qinling Mt for birding will be organized after the congress. The researchers from China and overseas are welcome to attend. Early registration and abstract submission will be made before May 31, 2017. Meeting schedule in detail please pay attention to the China Ornithological Society website (www.chinabird.org).

(China Ornithological Society)

小䴙䴘（*Tachybaptus ruficollis*）
摄影 陈跃生

鸳鸯（*Aix galericulata*）
摄影 宋建跃

疣鼻天鹅（*Cygnus olor*）
摄影 陈后起