



Summary Report

**The 9th International Symposium of Integrative Zoology:
Response and adaptation of animals to extreme environments
27-31 August 2017, Xining, Qinghai Province, China**

The International Society of Zoological Sciences (ISZS, website: <http://www.globalzoology.org>), together with its hosts, the Northwest Institute of Plateau Biology (NWIPB), Chinese Academy of Sciences (CAS) and the Zoological Society of Qinghai Province, China organized the 9th International Symposium of Integrative Zoology, 27-31 August 2017, Xining, Qinghai Province, China. The theme of the symposium is “Response and adaptation of animals to extreme environments.”

Xining is the capital of Qinghai Province in China locating in the Qinghai-Tibet plateau. It is also an important transition city in the Belt and Road (B&R) Initiative by the Chinese government. The Qinghai-Tibet plateau, also known as the Third Pole or “water tower”, contains the headwaters of the drainage basins of most of the streams in surrounding regions. It owns the unique geological, climatic and biological components of the world. The impacts of climate warming and extreme environments in the Qinghai-Tibet plateau are of great interest to the scientists and public.

The co-organizers and supporters of the symposium were BCGC program, International Union of Biological Sciences (IUBS); The State Key Laboratory of Integrated Pest Management, Institute of Zoology (IOZ), CAS; Asia Pacific Forest Invasive Species Network (APFISN); Asia-Pacific Wildlife Diseases Network (APWDN); Centre for Ecological and Evolutionary Synthesis (CEES), University of Oslo, Norway; Chinese National Committee for International Union of Biological Sciences (CCIUBS); IOZ, CAS; Bureau of International Cooperation, CAS; Department of International Affairs and Department of Academic and Societies Affairs, China Association for Science and Technology (CAST); Division of Life Science, National Natural Science Foundation of China; Qinghai Association for Science and Technology, China; Qinghai Key Laboratory of Animal Ecological Genomics, China; and John Wiley & Sons, Inc.



Group photo of some attendees

Over 150 scientists from over 20 countries in the world attended the Symposium. Yaping Zhang, Academician and Vice President, CAS; Nils Stenseth, Professor of University of Oslo, Norway, Academician, the Norwegian Academy of Science and Letters, and the Immediate Past President, IUBS; Jiansheng Jia, Deputy Director, Department of Wildlife Conservation and Nature Resource Management, State Forestry Administration, China; Huaigang Zhang, Director of NWIPB, CAS delivered remarks at the opening ceremony, which was chaired by Zhibin Zhang, President, ISZS and Professor, IOZ, CAS.



Yaping Zhang (left), Nils Christian Stenseth (right) delivering remarks at the opening ceremony

Yaping Zhang pointed out in his remarks that the Qinghai-Tibet plateau is called as the Third Pole or “water tower” in the world and it owns the unique geological, climatic and biological components, but very vulnerable to the global change. As China would set up the Sanjiangyuan National Park and begin the second comprehensive scientific expedition on the Qinghai-Tibetan plateau, this symposium was not only right to the theme but timely as well. He believed that this symposium would be of great significance in promoting the international communications and cooperation in the field.

Nils Christian Stenseth said in his remarks that the 21st century would be a century of a unified biology and he believed that a unified biology would have a great impact on our lives and environment on earth. He also spoke highly of ISZS's great efforts and extraordinary achievements in promoting integrative zoology in the world. He also expressed his appreciation of the effective supports from the Chinese departments, such as CAS and CAST, to ISZS and the symposium.

Other distinguished guests at the ceremony included John Buckeridge, an Executive Member of International Science Council (ICSU), Professor of RMIT University, Melbourne, Australia; Chair, Advisory Committee and President Emeritus, ISZS; Yvon Le Maho, Distinguished Research Director Emeritus, CNRS, France and EC Member, ISZS; Yuan Xie, Director, Department of Science and Technology, Qinghai Province, China; Liwei You, Director, Qinghai Association for Science and Technology, China; Anthony Barnosky and Elizabeth Hadly, Professors from, Stanford University, USA; Larry Young, Professor from Emory University, USA; and Susan Healy, Professor, University of St Andrews, UK. Representatives from the Qinghai Forestry Department, China; Sanjiangyuan (Three Rive Source) National Park, China; Zoological Society of Qinghai Province, China; National Wildlife Research Center, U.S. Department of Agriculture; China National Committee for Man and Biosphere (MAB) Program, UNESCO were also at present at the ceremony.



*Top from left: John Buckeridge, Jiansheng Jia, Huaigang Zhang
Bottom from left: Yuan Xie, Liwei You, Zhibin Zhang,*

The CAST-ISZS Young Elite Scientists Sponsorship Program was launched and the first ISZS Young Scientist Award was also announced at the ceremony. Yvon Le Maho represented the certificates to the program successors, Yingze Xiong from Central China Normal University, China and Jundong Tian, Zhengzhou University, China. John Buckeridge announced the winners of the Award. They were Min Lu, IOZ, CAS; Blanca Moncunill Solé, University Autònoma de Barcelona, Spain; Ning Li, Nanjing University, China and Rogelio Aguilar-Aguilar, Universidad Nacional Autónoma de México.



*Left: Yvon Le Maho presenting certificate to Yingze Xiong
Right: John Buckeridge giving the Award to Min Lu*

There were 10 plenary lectures and 11 sessions during the symposium, totaling 111 oral presentations and 14 posters. The 10 plenary lectures were “Population genomics of dog and chicken” by Yaping Zhang; “A unified biology during the 21st century and its impact on our lives and our environment” by Nils Christian Stenseth; “Solving the Anthropocene Extinction Crisis” by Anthony Barnosky; “Why voles fall in love” by Larry Young; “How to get undisturbed control animals in field investigations” by Yvon Le Maho; “Thermal Sensitivity of Terrestrial Ectotherms in a Warming World” by Raymond B. Huey; “On top of the world: The evolutionary and ecological tool kits of Himalayan pikas” by Elizabeth Hadly; “Conservation and the status of non-endemic taxa” by John Buckeridge; “Management of Three Rive Source National Park: balancing between wildlife conservation and livestock production” by Xinquan Zhao; and “Animal cognition in 2017” by Susan Healy.



Plenary lecture speakers

*Top from left: Yanping Zhang, Nils Christian Stenseth, Anthony Barnosky, Larry Young, Yvon Le Maho
Bottom from left: Raymond Huey, Elizabeth Hadly, John Buckeridge, Xiquan Zhao, Susan Healy*

The 11 sessions were Wildlife Disease and Climate Change; Neurobiology of Motivated Behaviors; Eco-physiology; Eco-microbiology; How to Track Wild Animals without Disturbance and Subsequent Bias; Rewilding, Resilience and Restoration Ecology: Issues in Conservation Management and Community Dynamics; Plant-Animal Mutualisms: Their Impact in Terrestrial Ecosystems; Biological Buffers and the Impacts of Climate Change; Research and Conservation of Marine Mammals in Asia-Pacific Waters; Animal Cognition; and Zoology in General.



Some session organizers

Top from left: Abraham Haim, Marcel Holyoak, Dehua Wang, Michael Steele

Bottom from left: Ding Wang, Weiguo Du, Hongxuan He, Hongmao Zhang

Furthermore, a workshop on Protected Areas (PA): How to promote wildlife monitoring for improving PA management and a workshop on Conservation Biology was also organized during the symposium.

Some participants of the symposium also discussed the 2017 Annual Meeting of the International Alliance of Protected Areas in Tanjiahe, Sichuan Province, China; International Symposium on China-Mongolia Cross-border Wildlife Conservation and Management, in Beijing, China; and International Cooperation on Sanjianyuan National Park, China.

Alongside the symposium, ISZS organized a joint meeting of its Executive Committee and *Integrative Zoology* (INZ) Editorial Board on 29 August 2017 in Xining China. Mr Chunxu Han, ISZS Secretary General, delivered an ISZS Working Report for 2017, and Dr Wenhua Xiong, INZ Executive Editor, an INZ Working Report for 2017. People at the meeting were satisfied with the work at the ISZS Secretariat and INZ Editorial Office. They spoke highly of the achievements by ISZS and INZ in 2017. Other issues discussed at the meeting included the 10th International Symposium of Integrative Zoology (ISIZ) in China in 2018, the 11th ISIZ in New Zealand in 2019, the 23rd International Congress of Zoology in 2020 in South Africa, call-for manuscripts for INZ, new INZ Editorial Board member invitation and special issues in INZ, etc.

Before the symposium, a Pre-meeting Training on “Noninvasive Monitoring Techniques” was organized in Xilinhaote, Inner Mongolia, China 22-24 August 2017, and a Post-meeting Training on “Bio-informatics, Data Analysis” as held on 30-31 August 2017 at NWIPB, CAS in Xining.



Some attendees at the training in Xining

The 5-day symposium was a great success. Quite a number of participants regarded it as an honor to come up to attend the meeting. They found the symposium was well organized and the talks and presentations that were delivered in the symposium were

highly informative, giving them new insights to pursue their research areas. By attending the symposium, they also met so many well-known scientists coming from the world and they hoped that they could come back the next year.

ISZS was established in Beijing in 2004 as an international zoological body charged with organizing the International Congress of Zoology (ICZ) and providing a global voice for zoologists. It is also a nonpartisan, nonprofit, membership-based organization of professionals in zoology. Currently, the core business of ISZS includes organizing the ICZ (started in 1889 and held every four years), publishing Integrative Zoology (INZ), a multidisciplinary scientific journal which is SCI and Medline Indexed (IF2.074 in 2016, 32% of the 163 zoological journal in JCR), organizing the International Symposia of Integrative Zoology (ISIZ) in non-Congress years, facilitating international research programs, such as Biological Consequences of Biological Sciences (BCGC) and organizing international training on zoology. As if at the end of 2016, there were over 100 institutional members, including scientific academies, universities, NGOs, nature reserves, zoos and other professional societies from every continent in the world, as well as more than 1000 individual members, with the ISZS. To promote integrative zoology in the world, especially alongside the B&R countries and regions is an important task at ISZS. For further information about the ISZS and its membership, please visit the official website at: <http://www.globalzoology.org>.



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