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Part I: Preface

A Flagship for Integrative Zoology



Prof. Yiyu Chen, Former President, the National Sciences Foundation of China; Chair of the Editorial Advisory Board, INZ

Great congratulations to the 125th anniversary of the International Congress of Zoology (ICZ) and 10th anniversary of the International Society of Zoological Sciences (ISZS)!

As a zoologist, I personally attended the 19th International Congress of Zoology in 2004 in Beijing, and witnessed the establishment of ISZS during the Congress. Today, after 10 years of hard work and effort, I am more than happy to see that ISZS has organized a series of academic activities and developed itself into a global network for zoologists across the world.

In 2006, ISZS launched its official journal, *Integrative Zoology* (INZ). With a focus on zoology as an integrative discipline, the journal aims to encompass various perspectives and scientific disciplines to contribute to the understanding of zoological phenomena, and it specially encourages cooperation between zoology and other disciplines, such as botany, geography, computer science, social sciences, and conservation, etc.

As the Chair of the Editorial Advisory Board of the journal, I am so pleased to see the rapid progress that the journal has made in the past 8 years. In 2013, its impact factor grew to 1.419, ranking the 47 out of 152, or top 30.9%, in the world zoological journals indexed by JCR. Its 5-Year Impact Factor reached 1.743. For its readership, the journal is currently available at over 5,000 institutions in the world, and its full text downloads was exceeded 30,000 just in 2013.

I am proud to say that both ISZS and INZ are international and they deserve the reputation they gained as a high-quality society and journal. I do hope that both the society and journal continue its current healthy trend of development and make even greater progress in the future.

A Platform for Collaborations



Prof. Yaping Zhang, Vice-President, Chinese Academy of Sciences, China.

At the 125th anniversary of International Congress of Zoology (ICZ) and the 10th anniversary of International Society of Zoological Sciences (ISZS), please allow me to express my warmest congratulations on behalf of Chinese Academy of Sciences (CAS).

Zoology is one of the oldest sciences in the world. However, it develops fast. It was initially a study on animals itself. However, now it has developed into a study on interactions between animals and their environment, as well as a look at the fundamental basis of life, from molecules to cells to ecosystems, for both the living and extinct animals.

ICZ is one of the oldest scientific congresses in the world, focusing on zoological information exchange internationally even from the very beginning in 1889. Although dormant for nearly 30 years due to the emergence of too many sub-disciplines under zoology, ICZ resurrected in Athens in 2000 with the idea to promote intercreative study on zoology.

With the mandates from IUBS (the international Union of Biological Sciences), ISZS was established in 2004 to look after and secure the sustainability of ICZ. Though it has only 10-year history, it has gained a high reputation among zoologists and scientists in the world through promoting integrative zoology, organizing ICZ and symposia in China and different countries in the world, publishing the official journal, *Integrative Zoology*, and coordinating international scientific research programs.

As a national team, a think-tank and big school in China, CAS has been giving whatever possible to support ISZS to develop and expand itself during the past 10 years. The host of ISZS secretariat office by the Institute of Zoology, CAS and financial support to ISZS international meetings, training courses and research program like Biological Consequences of Global Change (BCGC), are typical examples.

As China's highest academic institution and national comprehensive research and development center in natural sciences and high-tech innovation, CAS always supports international academic exchange and cooperation. To a great extent, ISZS works as a portal, and serves as a platform, for international exchange for both the Chinese scientists to introduce their achievements to an international community and for scientists overseas to bring novel ideas and technologies to China. I am sure

that CAS will continue to further support ISZS as they both work in parallel and share many common goals.

A Milestone for Global Zoology



Prof. Nils Chr. Stenseth, Centre for Ecological and Evolutionary Synthesis (CEES), University of Oslo, Norway; President, International Union of Biological Sciences (IUBS)

On behalf of the IUBS (the International Union of Biological Sciences), I wish to congratulate the International Society of Zoological Sciences (ISZS) on its 10th Anniversary and its impressive accomplishments over the past decade. To a great extent, it is ISZS that has ensured the rebirth of International Congresses of Zoology (ICZ), one of the world's oldest scientific congresses, and its stable continuity.

Following the revival of ICZ in Athens, Greece in 2000 at the 18th Congress, the IUBS General Assembly ratified the proposal to create ISZS in January 2004 in Cairo, Egypt, and formally established ISZS in August 2004 as it hosted and organized the 19th ICZ congress in Beijing, China, headquartered at the Institute of Zoology, Chinese Academy of Sciences, where it persists to this day.

Since its induction, ISZS hosts all present and future ICZs, organizes and hosts the International Symposia of Integrative Zoology (ISIZ) on non-congress years, managed 8 successful years of publishing the journal, *Integrative Zoology*, which in 2013, ranked in the top 30.9% SCI-indexed zoology journal worldwide, and in cooperation with the IUBS, jointly embarked in launching the international research program Biological Consequences of Global Change (BCGC), networking leading researchers from across the globe.

As this year marks the 125th Anniversary, the Quasquicentennial, of ICZ, and 10th anniversary of ISZS, we are reminded that the continuation of the legacy of the world's oldest scientific congress was made in large part possible by the perseverance and dedication of the ISZS's secretariat and executive/advisory committees, by their successful collaboration with other longstanding scientific societies and organizations such as the IUBS (we celebrated our 95th Anniversary this year), and constantly raising the standard of excellence in overseeing publication of its flagship journal *Integrative Zoology*.

While the ICZ has seen rapid growth, peak, a prolonged sabbatical and subsequent

revival, ISZS starts a new epoch for zoology, tasked with the mission of integrating both zoology and zoologists alike in the face of today's challenges such as increased globalization, global and climate change, and threats faced from non-native invasive species. Along that vein, IUBS has proudly support ISZS's Biological Consequences of Global Change (BSGC) program, which has seen 25 papers and 3 special issues *Integrative Zoology* published, hosted and organized 8 symposia, 5 workshops and 2 international training courses for young scientists. ISZS parallels IUBS's mandate to develop approaches to make scientific disciplines more successfully interact, and is a proud supporter.

By doing what ISZS does best, namely serving the scientific community as a global platform to integrate zoologists, many scientific associations and disciplines have come together and the field of Integrative Zoology has emerged to face today's new challenges, and will continue to do so for many years and ICZ's to come.

On the International Society of Zoological Sciences – reflections upon a momentous decade*



Prof. John BUCKERIDGE, School of Civil and Chemical Engineering
RMIT University, Australia; Advisory Committee (AC) Chair, ISZS; President Emeritus,
ISZS; Executive Committee (EC) Member, International Council of Science (ICSU)



Prof. Marvalee WAKE, Department of Integrative Biology
University of California, Berkeley, USA; Executive committee member, ISZS

Those of us who are fortunate enough to have the passion and wherewithal to study nature will reflect, with pleasure, upon these words: *I can see (no limit) to the beauty and infinite complexity of the co-adaptations between all organic beings, one with another and with their physical conditions of life* (Charles Darwin, *On the Origin of Species*, 1859). Darwin is the founder of modern biology, but his awe of nature had genesis not in isolation but in the formative world of other enlightened scientists. In the same manner, zoology advances when the passion of zoologists is harnessed through international symposia and publication in peer-reviewed journals. Twenty-first century technology has facilitated this process of knowledge transfer by being both global and instantaneous – and it is this immediacy that has laid the

foundations of our society.

It was a rather restricted body of natural historians that met 125 years ago at Paris in 1889, when the Société zoologique de France hosted the first Congress of Zoology. Communication then, even between neighbouring countries, was painfully slow; not surprisingly, zoological congresses ran with varying degrees of success over the following century. During that period, biology expanded its scope and its professional participants, such that a number of specialized components developed and sought a sort of independence, including new societies and congresses, bodies of literature, and techniques. "Zoology," or the totality of the biology of animals, was no longer focal, as its parts gained greater emphasis than its sum. Congresses of Zoology took place at longer and longer intervals, but stressed research on animals that brought together the emergent sub-disciplines of biology. That trend, evinced at the XVI Congress in Washington DC in 1963 and the XVII Congress in Monaco in 1972, and expressed as a need to "reintegrate" the subfields of zoology so that new insights into the centrality of the organism, as well as its structure and function, was brought into full focus at the next Congress, nearly 30 years later—the seminal XVIII Zoological Congress, held in Athens, Greece in 2000. The mission of that Congress was to promote both the integration of the science and to emphasize those areas of the science that were viewed as needing renewed support (e. g., systematics and taxonomy). A proposal was developed to establish an International Society of Zoological Sciences (ISZS) that would lead the re-synthesis of zoology by improving communication among zoologists and with other biologists by sponsoring meetings, symposia, and a journal that emphasized integrative zoology. The motion was tabled with the caveat that this action should be taken under the auspices of a General Assembly of the International Union of Biological Sciences (IUBS), of which the International Congress of Zoology had long been a Scientific Member. At the next IUBS General Assembly in Cairo, on 20th January 2004, a motion to establish the ISZS was introduced by Zhibin Zhang, John Buckeridge and Dov Por. It was overwhelmingly approved and shortly after, in August of that year, the Society's first Symposium was held in Beijing. The Chinese Academy of Science became the host for a secretariat, and with their generous support, it was established with a small staff, in their Institute of Zoology.

Over a period of little more than a decade, ISZS has expanded to become a global network of zoological scientists that would truly have astounded the few who gathered in Paris more than a century ago. The current outreach of ISZS has grown due to the dedication of a few, but with the enthusiastic support of many. ISZS is now a nonpartisan, nonprofit membership-based organization of professionals that aims to promote zoology by improving communication between zoologists and zoological organizations; to increase the availability of resources needed to conduct zoological research; and to promote co-ordination, collaboration and co-operation between different fields of zoology, as well as across the biological, physical and social sciences, and the humanities, as appropriate to issues under study. ISZS leads in using current

communication technology to increase effective collaboration in ways that encourage new scientific insights.

In its short history the Society has not only hosted more than five major symposia, each with refereed proceedings, but has established the very credible journal *Integrative Zoology (INZ)* which, with an impact factor of 1.419, is the envy of many much more established natural history publications. INZ is successful because it is integrative – but it is not simply an integration of science, because its outreach extends beyond the established halls of academe to embrace smaller institutions in the developing world, as well as diverse agencies that have common goals that require understanding of the biology of animals. It thus encapsulates its moniker, for *INZ* not only integrates all facets of zoological sciences, it integrates zoologists. And this is the real strength of ISZS.

We look to the next decade with much confidence and high expectations.

*This article has been published in *Integrative Zoology* 2014; 9: 555–556.

A Home for Global Zoologists



Prof. Zhibin Zhang, Institute of Zoology, Chinese Academy of Sciences; President, ISZS; Editor-in-Chief, INZ

This year is the 125th anniversary of the International Congress of Zoology (ICZ) and 10th anniversary of the International Society of Zoological Sciences (ISZS). This album has been prepared to celebrate this momentous occasion.

ICZ, as one of the World's oldest scientific congresses, has played a leading role in the development of world zoology for nearly a century since it was founded in 1889. It has made a significant contribution to the development of many sub-branches of zoology. However, administrative changes and splintering of zoology into a plethora of smaller discipline-focused societies resulted in a crisis for the ICZ that lasted for nearly three decades, from 1970s-1990s.

At the close of the 20th century, there was, once more, a strong appeal for integration of zoological sub-disciplines. As a result, the 18th ICZ was re-launched in Athens, Greece in 2000. Based on lessons learned and an imperative to ensure future sustainability of an ICZ, a proposal for “The re-activation of a learned society for the zoological sciences (The International Society of Zoological Sciences, ISZS)” was made at Athens. This proposal was approved overwhelmingly by vote at the 28th IUBS GA

in Cairo, Egypt on 22 January 2004. The 19th ICZ was held successfully in Beijing, China, in August 2004 and ISZS was formally established on 24 August 2004 with its secretariat office located at the Institute of Zoology (IOZ), Chinese Academy of Sciences CAS), Beijing, China.

It is clear that the creation of ISZS has greatly revived ICZ and has made a great contribution to the development of global zoology, particularly in developing nations. During the past 10 years, ISZS has grown rapidly. It currently has 118 Institutional Members (that in turn represent over 30,000 individuals) and 1119 Individual Members. ISZS has also successfully organized three ICZs, five symposia (i.e. International Symposia of Integrative Zoology, ISIZ), an international research program “Biological Consequences of Global Change, BCGC” and has launched an official journal: *Integrative Zoology* (INZ) which has become a top 30% SCI- indexed journal in the field of zoology. Through these activities, ISZS has become an important global platform for the promotion of and the development of integrative zoology, international collaboration, and training of young scientists. ISZS has now become one flagship of global zoology!

In this new century, our planet faces great challenges of accelerated global change which are mainly caused by climate warming and human disturbances. The serious problems we face include species extinction, biodiversity loss, outbreaks of pests, wildlife-borne diseases and biological invasions. Solving those problems will largely depend on the development of integrative zoology and international collaboration. In the 21st century, ISZS must actively pursue its responsibility in uniting zoologists globally and integrating the multiple disciplines of our science in order to tackle these challenges.

On the occasion of the 125th anniversary of ICZ and the 10th anniversary of ISZS, I would like to take the opportunity to express our gratitude and thanks to the following organizations which have provided important support to the development of ICZ, ISZS and INZ: the Chinese Academy of Sciences (CAS); China Association for Science and Technology (CAST); National Natural Science Foundation of China (NSFC); Ministry of Civil Affairs of China; IOZ, CAS; IUBS; China Zoological Society; the Hellenic Zoological Society, Greece; and Haifa University, Israel.

I hope ICZ and ISZS will have a better future in the coming decades.