

Foreword

This special issue of *Animal Production Science* contains papers representing the Plenary and Keynote presentations and other work presented at the 7th International Deer Biology Congress (IDBC), held in Chile at the Huilo Huilo Biological Reserve, 56 km from the town of Panguipulli, 1–6 August 2010.

The IDBC are a series of generally quadrennial congresses on cervids aimed at uniting professionals interested in the biology, management, and conservation of wild deer and farmed deer production, to provide a forum to present new research, to discuss common problems, and to share knowledge and experiences. The IDBC evolved from the conference on 'Antler Development in Cervidae', organised in 1982 in Kingsville, Texas by Dr Robert Brown, with the first IDBC in 1983, organized by Dr Ken Drew and Dr Peter Fennessy in Dunedin, New Zealand. Subsequent congresses were organised by Dr Bob Brown at Mississippi State, USA (1990), by Dr John Milne in Edinburgh, UK (1994), by Dr László Sugár and Dr Zoltán Zomborszky in Kaposvár, Hungary (1998), by Dr Michele Crête in Québec City, Canada (2002), and by Dr Luděk Bartoš in Praha, Czech Republic (2006).

The Scientific Steering Committee (SSC) has been the organ providing continuity for the IDBC as the committee remains active between congresses. It also takes care of reviewing the submitted contributions, aimed at maintaining the IDBC's high publication standards, so that these congresses can be regarded as the leading events in their field, presenting recent and on-going major breakthroughs on various topics of interest. After the 6th IDBC, the SSC decided to hold the Congress in South America for the first time, given the region's high diversity of deer species, which represent the only natural radiation of cervids in the southern hemisphere. Furthermore, holding the congress in Chile provided many neotropical deer biologists with the opportunity to participate in an IDBC for the first time. Considering the economic realities of most Latin American countries, the fact that 63% of the participants came from Latin America was a pleasing outcome. At the same time, many deer scientists from the northern hemisphere were able to attend the congress and learn about the reality of deer research and management in a very unique continent with many little-known deer species, many of which are threatened with extinction. Additionally, colleagues from Australia and New Zealand could compare the situation regarding the many introduced deer species which they have in common with South America, with the difference that South America also has native cervids, camelids and large predators.

The 7th IDBC was organised by Dr Werner Flueck (CONICET, Argentina) and Arq. Ivonne Reifschneider (President, Huilo Huilo Foundation, Chile), while the Chairperson of the Local Organising Committee, Dr Alexandra Petermann (Universidad Adolfo Ibañez, Chile) managed the logistics, assuring that the congress facilities, lodging accommodations and transportation to the Huilo Huilo reserve met with highest standards. Additionally, government officials of the Agriculture and Livestock Service (SAG, Ministry of Agriculture, Chile) and volunteers and staff of the hosting institution (the Huilo-Huilo Foundation) assisted with numerous aspects of organising the event. The involvement of the Huilo Huilo Foundation was not a casual coincidence. One of their

most dedicated missions is to recover the highly endangered Patagonian huemul deer (*Hippocamelus bisulcus*) from the brink of extinction. To that effect, they started a conservation centre with semi-captive huemul, the only one currently in existence worldwide. The over 100 000 hectares of their reserve harbor this 64 hectare centre with the goal to re-introduce huemul in the near future: the first-ever such conservation approach for this species. Given that huemul is portrayed on the Chilean coat of arms and that Chile was in the midst of celebrating its Bicentennial anniversary, the congress captured much attention in the national media. Various senior officials from government agencies related to the environment attended the opening ceremonies. And most importantly, attendance by numerous scientists working on the huemul was made possible through various charitable contributions, therefore making the symposium on the two *Hippocamelus* species a reality. This, together with additional presentations on these two species throughout the congress, reached a total of twenty scientific works, many of which are now published in this Special Issue of *Animal Production Science*.

Funding from several generous sponsors allowed 15 participants in all to receive stipends or travel grants (3 from Asia, 3 from Chile, 6 from Argentina, 2 from UK, and 1 from Australia). The organisers would like to thank all these sponsors for their support: Swiss Tropical and Public Health Institute (Basel, Switzerland), North American Deer Farmers Association and the Smithsonian Institution (USA), the Australian Rural Industries Research and Development Corporation, and from Argentina: Estancia Altos de Fortín (Neuquén province) and Mecanica Suizo Andina (Provincia Río Negro). Thanks are also extended to the additional sponsors who contributed with invaluable and essential logistical support: Comisión Nacional del Medio Ambiente and Servicio Agrícola y Ganadero (Chile), CASEB of Pontificia Universidad Católica (Chile), Universidad Atlántida Argentina, Lotek Wireless Inc. (Ontario, Canada), as well as El Retorno hostel (Provincia Río Negro, Argentina) and CYON GmbH (Basel, Switzerland). And a very special thanks to Nicolas Delgado of Travelsolutions for the smooth organisation of travel arrangements that were made possible through his superb efforts.

This congress brought together a diverse group of deer scientists and deer management professionals from 23 countries of Europe, North and South America, Asia, Australia and New Zealand. There were 260 registered colleagues and 100 oral plus 60 poster presentations. This was outstanding given the extra effort it took for all participants to make it to this remote corner of the world in the midst of winter.

Plenary talks were given by Dr Robert Warren (Deer overabundance revisited: recent advances, challenges, and opportunities); Dr Luděk Bartoš (Relationships between rank related behavior and antler growth in deer); Dr David Saltz (Reintroducing the Persian fallow deer – a chronology of ups and downs); Dr Chunyi Li (Stem cells, stem cell niche and antler regeneration); Dr Gordon Dryden (Nutrition of deer – a quantitative approach); and Dr Rory Putman (Intraspecific variation in biology and ecology of deer: magnitude and causation). Furthermore, Keynote talks were given by Dr

Geoff Asher (From wild to domesticated in 30 years: lessons from the reproductive management of farmed red deer), Dr David Reby (Vocal communication in deer: application of the source-filter theory to the study of mammal sexual calls), and Dr Steve Carr (Genetic and genomic structure of Newfoundland caribou and its phylogeographic implications for the evolution of caribou and reindeer).

Dr Graham Nugent and Dr William McShea organised the workshop on 'Policies and management of overabundant deer (native or exotic) in protected areas' (see summary in this issue). Dr David Reby and Dr Megan Wyman organized the workshop on 'Measuring the acoustic properties of vocalisations', which provided hands-on sessions where participants learned how to use Praat on PCs to analyse animal vocalisations. Dr Steven Carr organised the workshop on 'Genomics of Rangifer and other deer species'. The Beijing Genomics Institute's '1000 Genome Project' was introduced and discussion opened on a submitted project to use NextGen DNA sequencing technologies to obtain the complete genome sequences of wild and domestic Rangifer, with the option of expanding the scope of this project to include other holarctic cervids or to address the evolution of antler ornamentation and the genetics of antler development and variation.

Among the symposia, Dr Eduardo Silva and Dr Jaime Jiménez organised 'Advances in the conservation and ecology of pudu' (see summary in this issue), Dr Megan Wyman, Dr David Reby, and Dr Patricia Black Decima organised 'Communication in deer' with an introductory lecture by Dr Reby, and MSc Javier Barrio and Dr Jo Anne Smith-Flueck organised 'Advances in ecology and conservation of *Hippocamelus* species in South America' (see summary in this issue).

The Chilean government made an impressive effort to launch their new 'National Plan for Conservation of Huemul' on the opening day of the congress, to fall precisely on the nation's bicentennial celebration. Copies of the book were distributed to all participants. Their national plan aims at (i) reducing the lack of information on this species by encouraging scientific research, and (ii) contemplating more *ex-situ* conservation approaches for subsequent reintroductions and population reinforcements. The huemul conservation centre at Huilo Huilo certainly was their showcase. We were most honoured to have as guests the following government officials to open the congress: Ricardo Irarrázabal (Assistant Secretary, Ministry of Environment), Leonel Sierralta (Chief, Department of Natural Resources Protection, Ministry of Environment), Horacio Bórquez (Assistant Director, Agriculture and Livestock Service, SAG), Fernando Baeriswyl (Chief, Division of Protection of Renewable Natural Resources, SAG), and Eduardo Katz (Director, Protected Natural Areas, CONAF, Ministry of Agriculture).

We are honored that the Editorial Board of *Animal Production Science* offered to publish the proceedings of the 7th IDBC in a special issue, entitled 'Deer Biology, Production, Management and Conservation'. All participants were invited to submit papers, which had to pass two filters: first with approval of evaluators from among the organising committee and, subsequently, a

standard scientific peer review, under the independent responsibility of referees selected by the journal Editor. We would like to thank the Editor in Chief of *Animal Production Science*, Professor Wayne Bryden, Publisher Dr Chris Anderson, and Production Editor Helena Clements for all their help and many hours dedicated throughout the editorial process to bring this special issue to a successful completion.

The call for papers for this Special Issue resulted in an admirable 40 accepted submissions, covering a myriad of topics. After a detailed reviewing process, involving two or three different referees for most cases, we are gratified to present this Special Issue consisting of 13 articles plus summaries of workshops and symposia in the printed version, and an additional 27 short communications in an accompanying electronic document.

The Guest Editors are much indebted to the authors and reviewers for their very professional cooperation and consideration of the time lines. We also would like to thank all the authors who have submitted their valuable manuscripts to this issue and we ask for their understanding for any mistakes on our part. Our appreciation goes to the many anonymous reviewers who have worked so devotedly and helped to substantially improve the scientific works published herein.

Concerning the contents of this issue, we are proud to present these papers that cover a broad range of topics on the most recent advances in deer biology, including: Evolution and Conservation Genetics; Reproductive Physiology; Nutrition, Health and Disease; Antler Biology; Behavior of Free Ranging and Captive Deer; Deer Production and Management; and last but not least, Conservation of Neotropical Deer.

Through this issue, we hope to make some of the advances and current state of the art of deer science available to those deer enthusiasts and specialists who were unable to attend the congress. We hope you enjoy reading this issue.

Guest Editors: Werner T. Flueck, Jo Anne M. Smith-Flueck, Gordon Dryden

The Scientific Steering Committee for the 7th IDBC consisted of:

Dr Jo Anne Smith-Flueck (Chair, Argentina)
 Dr Geoff Asher (New Zealand)
 Dr Luděk Bartoš (Czech Republic)
 Dr George Bubenik (Canada)
 Dr Norma Chapman (England)
 Dr Gordon Dryden (Australia)
 Dr John Fletcher (England)
 Dr Susana Gonzalez (Uruguay)
 Dr Dave Hewitt (USA)
 Dr Horst Kierdorf (Germany)
 Dr Karl Miller (USA)
 Dr László Sugár (Hungary)
 Dr Jimmy Suttie (New Zealand)
 Dr Nicholas Tyler (Norway)
 Dr Murray Woodbury (Canada).