

9th International Deer Biology Congress and 4th International Symposium on Antler Science and Product Technology

This Special Issue publishes plenary and contributed papers presented at two meetings, which were held in August 2018: the 9th IDBC and the 4th ASPT Conference. The unity of focus in these two meetings will make this Special Issue appeal to a wide range of readers interested in deer biology. All papers have been peer reviewed in accordance with the *Animal Production Science* journal's requirements, continuing the practice used for publication of papers from the 7th IDBC in Chile and the 8th IDBC in China.

9th International Deer Biology Congress (IDBC), Estes Park, Colorado, USA, August 2018

Deer are found worldwide – in both their places of origin and in regions where they have been introduced. This range of habitats is consistent with the wide variety of uses that are made from this unique animal: from their preservation as highly regarded native species in their regions of origin, as a recreational resource, and as the most recently domesticated and farmed type of any animal species.

Similarly, deer biology covers a very wide range of disciplines, and these were well represented at the 9th International Deer Biology Congress, which included discussions of deer biology and ecology, evolution, genetics, management, *in situ* and *ex situ* conservation, deer health, antler biology, and antler and venison production.

The Congress featured seven plenary presentations: (1) ecology, conservation and plasticity of deer migrations in North America and Europe; (2) history of chronic wasting disease; (3) deer ecology and management; (4) deer antlers as a source of traditional Chinese medicine (TCM) and pharmaceuticals; (5) fertility preservation and cryo-banking for species conservation; (6) physiological mechanisms in ecological models of performance; and (7) impacts of nutrition on growth and reproduction in female red deer. Four of these plenary presentations are included in this Special Issue, together with other contributed papers.

Continuing the practice that has evolved over these Congresses, nine additional symposia were organised within the IDBC framework: on chronic wasting disease, harvesting wild deer, predation, deer research in Latin America, and the management of over-abundant populations.

Enjoy!

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4th International Symposium on Antler Science and Product Technology (ASPT), Changchun City, Jilin Province, China, August 2018

As a unique appendage of deer, antler has generated much attention from both Eastern and Western scholars for more than 2000 years, which explains their extraordinary value. Eastern scholars of TCM have treated velvet antler (VA) as a mythical medicinal material (back to Shennong's Classic of Materia Medica, 2000 years ago). Western scholars of mammalian biology have considered antlers as an organ of significant interest for their unique biological phenomena (for example, Aristotle 384–322 BC). These two spheres of interest of the East and the West are maintained today.

Gratifyingly, since the end of the last century, more and more Eastern scholars have become interested in investigating the underlying molecular mechanisms of antlers' unique biological phenomena and published scientific papers in prestigious Western journals. Similarly, Western researchers have begun to appreciate the medicinal and health-supporting properties of VA, thereby producing velvet products as functional foods, nutraceuticals or dietary supplements.

The organisers for the ASPT series appreciate that these two antler research directions are not independent, but complementary. Studies on antler development may open a new avenue for the discovery of the VA mystery compounds that have unique pharmacological efficacy and vice versa. That is why the main purpose of this series has always been to bring together antler biologists, producers, processors, pharmacists and physicians to share each other's new findings and experiences and support the formation of new collaborations to give impetus to the development of this fascinating field.

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