

ORCHID CONSERVATION NEWS

The Newsletter of the Orchid Specialist Group of the IUCN Species Survival Commission

Issue 3

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Biodiversity and Protected Areas

Editorial

Julia Marton-Lefèvre, Director General of the IUCN, has written 'Planet at the crossroads', an editorial that was published in *Science* in October. It was prepared leading up to the IUCN World Parks Congress in Sydney, Australia, where ecosystems and biodiversity management of protected areas would be a key focus of discussion.

In a well-referenced review of the performance and effectiveness of protected areas, Watson *et al.* (2014) have presented a 'global portrait' of factors leading to a decline in protected area effectiveness. A useful insight as to how conservation approaches and attitudes have evolved over the past 50 years, initially focusing on species and protected areas to the present 'people and nature' views has been published by Mace, 2014. It has been observed that no one approach has been entirely bypassed but rather that views have merged into a complex process that is more challenging to frame into useful conservation measures and measurement of progress. We do make progress but will it be enough to protect even key orchid populations, habitats and supportive ecosystems?

Some 100 youth (20-35yr) participated in the World Parks Congress and were especially evident as Global Youth Ambassadors. The session, 'Inspiring the next generation', was well attended. We read of personal experiences and of the collaboration with the Young Professionals group to present a Young People's Legacy during the closing ceremonies. Youth offer an opportunity to reach outside the box, to initiate, to

integrate, and to motivate their peers to care about biodiversity and protected areas but they need intergenerational dialogue and support to make this happen. We look forward to having more youth involvement in orchid conservation.

Marilyn H. S. Light, Editor

milight@distributed.net

The Canadian Committee IUCN helped sponsor four youth ambassadors. Read about their experiences at <http://cc-iucn-youth-2014.blogspot.ca/>

Highlights of the 2014 IUCN World Parks Congress can be found with this link.

<http://www.iisd.ca/iucn/wpc/2014/html/crsvol89num12e.html>

The American Society of Plant Taxonomists honours Dr. Ken Cameron with the 2014 Peter Raven Award

Dr. Ken Cameron, Professor of Botany, University of Wisconsin-Madison and Director of the Wisconsin State Herbarium, is well known to those working in orchid conservation and with orchid systematics. He is an enthusiastic speaker to both scientific and lay audiences and author of *Vanilla Orchids: Natural History and Cultivation*, published by Timber Press in 2011. This award recognizes his outstanding contribution to science education and outreach.

**The Canadian Orchid Congress
recognizes**

**Dr. Joyce and Dr. Allan Reddoch
with COC Certificate Awards.**

Over the past 49 years (1966-2014), Drs. Joyce and Allan Reddoch have studied native orchids in the Ottawa Valley. Following early volunteer work with the Native Orchid Location Survey, they have monitored 22 orchid species in Gatineau Park, QC, and additional species elsewhere for a total of 36 species in all. This represents the largest assemblage of long term orchid studies in Canada. Their monograph, *The Orchids in the Ottawa District: floristics, phytogeography, population studies and historical review*, was published in *The Canadian Field-Naturalist* in 1997. Detailed studies of *Goodyera pubescens*, *G. tessellata*, *Platanthera hookeri*, and *Spiranthes casei* as well as documentation of the impact of flooding, herbivory, and drought on selected orchid populations and habitats have provided a foundation for future conservation initiatives. Drs. Joyce and Allan Reddoch are recognized for their conservation and publication legacy as well as for their dedication.



***Spiranthes* phylogeny**

Photograph below of *Spiranthes cernua* (L.) Rich., open form from Texas, blooming in late November. This species of small terrestrial orchid is also found, often intermingled, with at least one other form (closed) in Texas.



The *Spiranthes* genus, commonly known as ladies'-tresses, is quite unusual for orchids in having a broad distribution worldwide, yet being most diverse in North America. Morphological variation within and among species, in addition to hybridization and polyploidy (especially for *S. cernua*), have complicated taxonomic resolution, critical for identification and conservation of several rare members. We analyzed sequences of multiple individuals for all species found in the U.S., as well as some Old World specimens, to elucidate the evolutionary relationships among them, and to provide

insight into their broad pattern of distribution, with some unexpected results. This study is foundational systematic research for a group of charismatic, temperate, terrestrial orchids that rival unrelated model taxa in Europe and Australia in their biological complexity (Dueck *et al.* 2014).

See complete reference in Food for Thought.

On The Bookshelf

The Red List for the French island of Mayotte has been released. It includes 38 orchids of which 29 are threatened (3 CR, 5 EN, 21 VU) – the remainder are 3 NT and 6 LC.

Vincent, S.F.T. Mercks (ed.). 2013. *La Liste rouge des espèces menacées en France. Flore vasculaire de Mayotte.*

2014_Liste_rouge_Flore_vasculaire_de_Mayotte.pdf

Food for Thought

Bardgett, R.D. and van der Putten, W.H., 2014. Belowground biodiversity and ecosystem functioning. *Nature* 515: 505-511.

Brown, C.D. and Velland, M., 2014. Non-climatic constraints on upper elevational plant range expansion under climate change. *Proc. Roy. Soc. B* 281: 20141779. <http://dx.doi.org/10.1098/rspb.2014.1779>

Dueck, L.A., Aygoren, D., Cameron, K.M., 2014. A molecular framework for understanding the phylogeny of *Spiranthes* (Orchidaceae), a cosmopolitan genus with a North American center of diversity. *Am. J. Bot.* 101: 1551-1571.

Mace, G.M., 2014. Whose conservation? *Science* 345: 1558-1560.

Mallett, B., Martos, F., Blambert, L., Pailler, T., and Humeau, L., 2014. Evidence for isolation-by-habitat among populations of an epiphytic orchid species on a small oceanic island. *PLoS ONE* 9(2): e87469. doi:10.1371/journal.pone.0087469

Marton-Lefèvre, J., 2014. Editorial: Planet at the crossroads. *Science* 346: 5

Primack, R.B., Cigliano, J.A., Parsons, E.C.M., 2014. Editorial: Coauthors gone bad; how to avoid publishing conflict and a proposed agreement for co-author teams. *Biological Conservation* 176: 277-280.

Watson, J.E.M., Dudley, N., Segan, D.B., Hockings, M., 2014. The performance and potential of protected areas. *Nature* 515: 67-73.

Zhao, D., Hu, G., Chen, Z., Shi, Y., Zheng, L., Tang, A., Long, C., 2013. Micropropagation and in vitro flowering of *Dendrobium wangliangii*: A critically endangered medicinal orchid. *J. Med. Plants Res.* 7: 2098-2110.

Meetings

Temperate Orchids Research & Conservation

TORC '15 /

14-18 April, 2015, Island of Samos,
Greece

http://www.samosconferences.com/media/torc15flyer/flyeren/FlyerOrchidsConf_En.pdf

Blog

Mike Fay has a blog on slipper orchid red listing: <http://www.kew.org/discover/blogs/red-listing-slipper-orchids>

Call for conservation news

Members are asked to provide news of their recent conservation activities for publication in the OSG Conservation News.

Please submit material in Microsoft Word, and illustrations, if any, as separate jpeg files (not embedded), including photographic credit.

Changes to contact information?

To maintain effective communication, we need to know of any changes in contact information. Please inform the OSG Chair, Dr. Mike Fay (M.Fay@kew.org)