

ORCHID CONSERVATION NEWS

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

Issue 2

May 2017

LOOKING BACK TO MOVE CONSERVATION FORWARD



View of the limestone mountains just across the river near Vang Vieng town, Vientiane Province, Laos. Photo: Pankaj Kumar

HOLGER PERNER
1960–2017



Holger taken at his nursery in Huanglong,
NW Sichuan in June 2009. Photo © Phil Cribb

It is with great sadness that we report the death of Holger Perner in April 2017. Holger was well known to many people in the orchid community, especially in China, for his work on orchid propagation and conservation and for the orchid tours that he organised. Holger was particularly concerned with the conservation status of Chinese *Cypripedium* species and had been monitoring the effects of climate change on Chinese populations. His ability to work closely with conservation authorities led to *ex situ* propagation of *Paphiopedilum* species and that has helped to reduce illegal trade in several species. His wife Wen-qing plans to continue their *ex situ* propagation program.

Our condolences go to Wen-qing and their daughters.

Harold Koopowitz and Mike Fay

Orchid surveys in Laos: Vang Vieng

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The People's Democratic Republic of Laos retains some of the most extensive and best preserved limestone vegetation of the Indo-Burma Biodiversity Hotspot, and yet its flora is among the region's least studied. Mounting pressure on the country's natural resources as a result of mining, plantation forestry, agriculture and poaching means that there is now an urgent need to raise awareness and build capacity to ensure better conservation of its biodiversity.

KFBG established a partnership with the Ministry of Science and Technology (MOST) of the Lao Government in October 2014 with a view to carrying out joint biodiversity surveys and capacity building of local staff. Emphasis has been placed on gaining an understanding of the conservation needs of the country's orchids because these ecologically specialised but commercially valuable plants are highly threatened by over-collection for the horticultural and medicinal plant trades. It is hoped that orchids can serve as a flagship for the conservation of other organisms in Laos.

To date, six expeditions have been led by KFBG's Flora Conservation Department. Exploration of one particularly biodiverse karst landscape in central Laos led to the documentation of a staggering 135 orchid species within a survey area of a mere 4.71 km² (by comparison, Hong Kong harbours 133 species within ca. 1,000 km²), nine of which represented new records for the country. To add to our excitement, a small, achlorophyllous plant belonging to the non-orchid genus *Thismia* that was found in the area proved to be a species new to science. Based on our findings, we recommend consideration of this limestone area for recognition as one of the country's Key Biodiversity Areas (see Further Reading). In parallel to the field surveys, our staff have conducted workshops, lectures and training sessions on topics covering ecology, conservation, horticulture and living collections

management for the benefit of local government officials, botanic garden staff and university students.



Bulbophyllum violaceolabellum Seidenf.

Photo: Stephan W. Gale



Trichoglottis dawsoniana (Rchb.f.) Rchb.f.

Photo: Pankaj Kumar

A major milestone of this initiative was the construction of an orchid nursery for the *ex situ* conservation of native orchids within the grounds of the Biotechnology and Ecology Institute (BEI), which is managed by MOST, in Vientiane. The nursery presently maintains a collection of over 450 orchid species predominantly from central and northern Laos.

Further reading

Kumar, P., Gale, S.W., Schuiteman, A., Bouamanivong, S., Fischer, G.A. (2016). Identifying orchid hotspots for biodiversity conservation in Laos: the limestone karst vegetation of Vang Vieng District, Vientiane Province. *Journal of Threatened Taxa* 8: 9397–9417, doi: 10.11609/jott.2826.8.12.9397-9417.

Taxonomic study of *Sobralia*

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Sobralia is a large orchid genus distributed in the Central and South America. It can be characterized by slender, reed-like stems various in size. The flowers are large, brightly coloured and often ephemeral – lasting one or few days only.

My project is focused on revision. One of my aims is to list and precisely describe all the *Sobralia* species noted in the wild, including their diagnostic features and distribution. I think it is important, taking into account the rate of extinction that we observe in Central and South America. There is also a problem with hybridization within *Sobralia* – it occurs in natural populations, especially in disturbed areas (Dressler & Pupulin 2014) but we also have many new hybrids in cultivation each year. I see this as another big problem for the biodiversity of the genus.

The genus has never been subjected to detailed taxonomic revision. Taking into account the species richness of *Sobralia*, many confusions concerning determination of *Sobralia* representatives can arise.

I would like to propose a modern classification. There is already a sectional division of *Sobralia*. However, taking into account that there are a lot of species that remain unclassified, this should be verified. The new sections will be created on the basis of the morphological analyses but also with the support of a phylogenetic study based upon molecular data.

On the Bookshelf

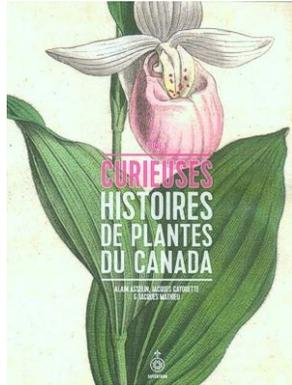
Curieuses histoires de plantes du Canada, Tome 1 [Canadian Plants and their Uses in New France – A World of Discovery]. Asselin, A., Cayouette, J., and J. Mathieu (2014), 288 pages, illustrated. Les éditions du Septentrion, Québec.

<http://www.septentrion.qc.ca/catalogue/curieuses-histoires-de-plantes-du-canada-tome-1>

e-book: ISBN 9782896648948

Paper: ISBN 9782894487976

This first volume covers the period from 1000 to 1670 in New France (Québec, Canada). It is a fascinating and informative read, well referenced and illustrated. While the focus is on historical information about plants, there is one particular orchid that sparks interest and this appears on the cover of Vol. 1 (Source: *The Botanical Magazine* 6, Plate 216, 1793). An illustration of the showy lady's slipper (*Cypripedium reginae*) appeared in the first flora of North America by Jacques Cornuti under the name *Calceolus Marianus Canadensis*.



Kumar, P., Gale, S.W., Schuiteman, A., Bouamanivong, S., and G. Fischer (2016). Identifying orchid hotspots for biodiversity conservation in Laos: the limestone karst vegetation of Vang Vieng District, Vientiane Province. *Journal of Threatened Taxa* : 8 (No. 12): 9397– 9417. <http://threatenedtaxa.org/index.php/JoTT/index>

Ponisio, L.C., Wilkin, K., M'Gonigle, L.K., Kulhanek, K., Cook, L., Thorp, R., Griswold, T. and C. Kremen (2016). Pyrodiversity begets plant-pollinator community diversity. *Global Change Biology* 22: 1794–1808.

Prena, J. (2017). Orchid weevils (Coleoptera: Curculionidae) in Canada. *The Canadian Entomologist* 149: 38–47.

Rock-Blake, R., McCormick, M.K., Brooks, H.E.A., Jones, C.S., and D.F. Whigham (2017). Symbiont abundance can affect host plant population dynamics. *American Journal of Botany* 104; 1–11.

Orchid weevils: *Stethobaris ovata* has been found on 13 orchid species in Canada including *Cypripedium parviflorum* var. *pubescens* (Prena, 2017). Damage to developing fruits can be seen below. See: Food for Thought for the citation.



Photos: M. MacConaill.

Food for Thought

Baranow, P. And D.L. Szlachetko (2017). Taxonomic study of the *Sobralia dorbignyana* complex (Orchidaceae). *Nordic Journal of Botany* 35: 38–44.

De Vriendt, L., Lemay, M.-A., Jean, M., Renaut, S., Pellerin, S., Joly, S., Belzile, F., and M. Poulin (2016). Population isolation shapes plant genetics, phenotype and germination in naturally patchy ecosystems. *Journal of Plant Ecology* rtw071. doi: <https://doi.org/10.1093/jpe/rtw071>

Dressler, R.L. and F. Pupulin (2014). Two new white-flowered species of *Sobralia* (Orchidaceae) from Costa Rica. *Harvard Papers in Botany* 19: 117–122.

Editorial

World over, there are unique habitats and hotspots supporting a rich biodiversity including endemic plants and animals that may be variously exploited. When these places are limestone barrens or karst formations, land use activities such as gravel extraction threaten habitat continuity. Identifying and documenting the species that inhabit such landscapes is a necessary first step toward species and landscape conservation. In this issue, we read about the survey of plants, including orchids, in the limestone cliffs of Laos which is part of the Indo-Burmese Biodiversity Hotspot.

A critical aspect of orchid species conservation is the Red List assessment of taxa including population status and risk analysis. Where populations of *Platanthera blephariglottis* are patchy as in the case of peatlands in Québec, Canada, De Vriendt *et al.* (2016) have demonstrated differences between isolated populations as well as reduced germination. They counsel that conservation proposals should consider the ecosystem as a whole as well as interconnectivity of patches and not simply a few exceptional locations for reserves.

Another consideration for assessment is taxon identification yet for many taxa there are complex relationships that may blur identification. This can be especially true when existing specimens are poorly documented and/or few in number. In this issue, we read about the initial steps toward addressing the complexities facing those working with *Sobralia*.

We look forward to hearing about new initiatives that together further the work of orchid conservation.

Marilyn H.S. Light, Editor



Photos: M. MacConaill

A small, isolated patch of *Platanthera blephariglottis* growing on a peatland near Québec City, Québec, Canada. This patch was not part of the study by De Vriendt *et al.* (2016) and but is being used here to illustrate the species and habitat. See: Food for Thought for the citation.

Changes to contact information?

To maintain effective communication, we need to know of any changes in contact information.

Please inform the OSG Chair, Mike Fay.

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Call for conservation news

Members are invited 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. If applicable, please include suggested captions and photographic credits. Send news to Marilyn Light, Editor, mslight@distributed.net