

CUBG Quarterly Briefing



Chinese Union of Botanical Gardens

Summer 2018

January, 2017 - June, 2018

It runs well at the mid-point of CUBG Construction Project (Phase II)

Since CUBG Construction Project (Phase II) launched in 2017, the three sub-projects (Full-Coverage Conservation Plan for Native Plants in China, Construction of Botanical Garden National Standards System, and Capacity Building Plan) have made headway referring to the assignment book.

Participants of Full-Coverage Conservation plan (Phase II) continue to enlarge wider range of wild survey after recollection and assessment of native plant threaten data, and attach more importance to native plant conservation by doing basic research on phonological observation, biological property, introduction and application cultivated technology. Besides, they also collect the image data of wild plants, like the team of south Yunnan, leading by Xishuangbanna Tropical Botanical Garden, has collected the image of 192 in the 195 families and 672 in the 1239 genera (according to the APG IV system). On top of this, it also accomplished two publications named *Field Guild to Wild Plants of China-Beijing* and *Inventory of Species Diversity of Guangdong-Vascular Plants* with several to be published.

Through the preliminary survey and classification assessment of Chinese Botanical Gardens, the team for construction of the National Standard System of the Botanical Garden (Phase II), leading by South China Botanical Garden, has proposed the main technical specifications of Chinese BGs; they also gave an account of the definition criteria of Chinese BGs and performance appraisal system and rules, then they formulated the certification standards for Chinese BGs. The results will be published this year.

CUBG Plant Information Management System (PIMS), domestically developed by CUBG's project group leading by South China Botanical Garden, has accomplished of the test of synonym library after upgrading to Version 2.6 and the nursery library is being tested. It so far has promoted of operation training for 36 times among 23 CUBG member users. The professional edition of collection application is under design as well as the data interface. The technicians also adjusted the data extracting interface of CUBG data sharing platform and improved the function of users' data list. The group has completed the preparation of software copyright application.

January, 2017 - June, 2018

Full-Coverage Conservation Plan made progress continuously

❖ Hunan Forest Botanical Garden surveyed the south of Hunan

During late April, Hunan Forest Botanical Garden, led by the director Peng Chunliang, made two trips for 9 days along the south of Hunan Province, including Nanyue, Yongzhou, and Zhangzhou to investigate the native plants there.



Team Members took a photo in the wild

A total of 126 species of wild plants were introduced during the survey. Meanwhile, three species of extremely dangerous wild plants were investigated: *Calanthe sieboldii*, *Gleditsia japonica* var. *velutina*, and *Elaphoglossum yoshinagae*. And there are 11 species of endangered wild plants: *Tsuga chinensis* var. *tchekiangensis*, *Tsuga longibracteata*, *Camellia chekiangoleosa*, *Viburnum hengshanicum*, *Primula cicutariifolia*, *Chirita crassituba*, *Paris fargesii*, *Aster mangshanensis*, *Sinosenecio saxatilis*, *Calanthe argenteostriata*, *Calanthe aristulifera*.

❖ XTBG: Another seven species listed in "Zero Distinction" rank has been found

Ten-day investigation in the swathes of Pu'er district jointly carried out by staffs from XTBG and Jingdong Sub-tropical Botanical Garden has lasted from June 6 to 15.

Through wide range survey from Menglan, Ximeng, Lancang to Simao, they found seven species listed in the "Zero



Argostemma verticillatum

Distinction” rank of threatened plant species including *Ophiopogon revolutus*, *Aporosa planchoniana*, *Speranskia yunnanensis*, *Cyclobalanopsis augustini*, *Collabium chinense*, *Argostemma verticillatum* and *Fissistigma bracteolatum*.

Besides, 143 plants were introduced separately to each garden according to the distinctive living environments and altitudes for cultivation.

❖ ***Ombrocharis dulcis*, a centenary-hidden plant settles down in Hunan**

Tracing back to 1910s, Handel-Mazzetti, an Austrian botanist, collected plant specimens in the Southwest Hunan and found two different populations of *Ombrocharis dulcis* separately in Yunshan Mountain, Wugang County. He founded its obvious characteristics totally different from *Paraphlomis* and *Loxocalyx*. Therefore, he named it *Ombrocharis* H.-M. with one species only and gave a detailed account of it in *Symbolae Sinicae* compiled by himself in 1936. Since then, nobody has doubted its taxonomic status.



Ombrocharis dulcis

For a century, this mysterious monotypic genus appeals to waves of botanists searching the trace of it across type locality, but nothing has come of it. It was once thought of distinction in the wild.

Recently, related university and scientific research units in Hunan Province put native plant investigation on the agenda. With valiant efforts, the traces of *Ombrocharis dulcis* are finally found in Mangshan, Ningyuan and Tongdao, far away from the original place Yunshan Mountain. Identity confirmation is well grounded in expert review and comparison between original description and type specimens and this mysterious Labiatae reappeared after a century.

Hunan Forest Botanical Garden, the crucial ex-situ conservation base for native plants in Hunan, led the team of CUBG project “Full-Coverage Conservation Plan of Native Plants in China” to start the in-depth study of this panda-rare plant for rescue. They first clarified its characteristics in biology and ecology, then introduced them in the garden’s conservatory for cultivation. It finally roots in botanical garden-the Eden of plants.

“Next we will carry out the research on its domestication and conservation.” Dr. Peng Chunliang, Director of Hunan Forest Botanical Garden, said, adding that they will explore to identify its taxonomic status with molecular biology methods.

❖ **A new species of Celastraceae found in Mengla**

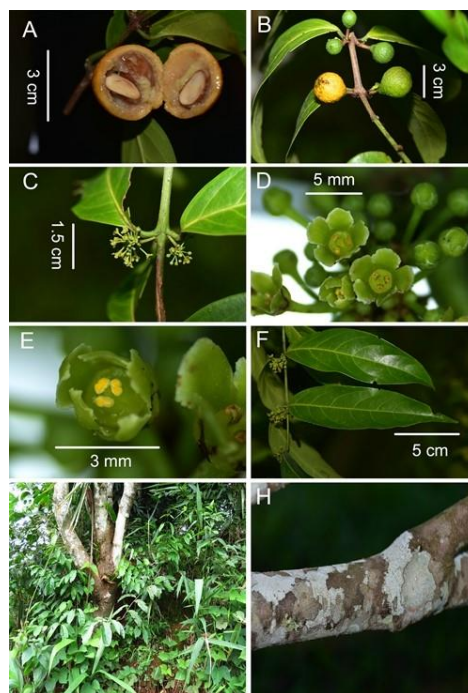
Salacia (Celastraceae) consists of about 200 species. In China, *Salacia* is represented by ten species, of which six have been recorded from Yunnan.

During extensive botanical studies in nature reserves in Yunnan, researchers from Xishuangbanna Tropical Botanical Garden (XTBG), also in charge of CUBG's Full-Coverage Plan, collected an interesting specimen of *Salacia* from Huidu Village, Mengla, Yunnan, China. After comparative studies, they confirmed it as a new species to science and named it as *Salacia menglaensis*.

The new species is a liana, reaching a height to 10 meters. It is similar to *S. korthalsiana*, *S. glaucifolia* and *S. polysperma*, but differs from them by the fruit size (2–3 x 2–3 cm), with only 1–2 mature seeds and by the non-glaucous abaxial leaf surface.

There are only two known populations of *Salacia menglaensis*, both in Mengla. However, the population size is prone to decline due to cultivation of tea, rubber and other economic crops. In addition, the two populations are outside protected areas. According to criteria of IUCN, the researchers consider the conservation status of the new species as Endangered.

The results are published in *Annales Botanici Fennici* titled “*Salacia menglaensis* a new species (Celastraceae) from China”.



Salacia menglaensis

May, 2018

CUBG applied successfully for the sub-project of CASEarth Program

After actively applying for the sub-project named “Big Data Platform for ex-situ conservation of plants in China”, which is affiliated to “Strategic Leading Science & Technology Program”, CUBG has passed the expert panel review and now is in the period to form the project assignment through CAS ARP system.

With 7.3 million RMB budget for five years, the sub-project will handle with four hurdles as follows: design of platform structure and standard, data construction and quality control management, platform construction and interfacing, realization of key technologies and functions. It will be undertaken by XTBG,

CNIC and SCBG (Xishuangbanna Tropical Botanical Garden, Computer Network Information Center, South China Botanical Garden).

February-May, 2018

CUBG Talent Exchange Plan helps staff from Qinling National BG visit IBCAS

Yang Ying from Qinling National Botanical Garden has visited the Herbarium of Institute of botany, CAS for three months through CUBG Talent Exchange Plan.

CUBG Talent Exchange Plan, launched twice in 2015 and 2017, is to promote Personnel and technical exchanges among members so as to improve the capacity building of BG system in China. It has received positively responses from members and sent their demands to Secretariat, who will contribute to contact relevant botanical gardens for exchanges as the “matchmaker”.

As the largest herbarium in Asia, the Herbarium of the Institute of Botany, CAS contains approximately 2.6 million specimens in collection and more than 17,000 precious specimens. It has become a model for the construction of Qinling’s herbarium. With many questions, Yang Ying started her study at IBCAS.

“With the help of Prof. Wang Fenghua, I firstly started fern and seed plant specimen binding.” Yang recalls. “Then, Prof. Fu Lianzhong guided me to work on plant classification. He designed a special course for I don’t have a basis for plant taxonomy. I also learned about plant specimen management from Prof. Ban Qin on the second floor of the herbarium and specimens exchanges from Prof. Yang Zhirong.”

With the serious teaching design, she has systematically learned the basic work of the Herbarium, like binding, identification and disinfection of specimen and type specimen management, digital management of specimen, etc.

“I draw inspiration from this learning trip that herbarium is not only for identifying the plant species and studying of flora , but also for providing basic services for scientific study and public education.” She concluded. “I also thank every professor here and the help of CUBG.”

CUBG will continue to support the exchanges among members and provide help as we could.

May 18, 2018

CAS BG Working Committee reviews long-term development plan for Guilin Botanical Garden

Composed of members of Botanical Garden Working Committee of Chinese Academy of Sciences as expert group, they gathered in Guilin to review the long-term (10 years) development plan for Guilin Botanical Garden on May 18. Prof. Chen Jin, director of XTBG and director of BG Working Committee, served as the head of the expert group.



Review meeting for Guangxi BG's long-term blunprints

Centered on its planning principles, strategic positioning, overall layout, and detailed development plans, the expert group reviewed and raised constructive suggestions focused on the specific issues.

Huang Shixun, Secretary of the Party Committee of Guilin Botanical Garden, expressed his gratitude to the long-term concern and support of the CAS Botanic Garden Working Committee. They will modify the plan after the meeting.

June 14, 2018

Plant identification and classification training course 2017 completed in Shanghai

June 14, the plant identification and classification training course completed in Shanghai Chenshan Botanical Garden. 50 people from 42 gardens finally obtained the certification after 14-day's intensive training in Shanghai, among whom five outstanding participants were selected to send to related institutes aboard for further study.



All teachers and participants take a photo in the closing ceremony

The well-rounded teaching team continuously improve course design from basic theory to practices, which even refers to the contents for the masters and doctors of taxonomy, as well as information techniques like herbarium management, photography, Image and data processing, etc.

With full enthusiasm, the participants learned from each other. They

accomplished the tasks of 18 courses and 12 special lectures and also more than ten days of wild survey internship in Tianmushan Nature Reserve.

Training Courses in Next Quarter

August 1 – 14, 2018

Training program on environmental education

Trainees:

- ☑ All practitioners from botanical gardens, NGOs, nature reserves and universities and institutes in China involving into environmental education.

Training Place:

- ☑ Xishuangbanna Tropical Botanical Garden



Find out more about training: <http://www.cubg.cn/tzgg/2018-06-11/2235.html>