

Editorial

In my previous editorial, on the recent controversy around eponyms, I briefly mentioned that there was a *Dendrobium* hybrid named after Kim Il Sung. As Joseph Arditti, who co-authored a detailed paper on this subject (Soediono et al., 2011), kindly reminded me, there is much more to be said about the fascinating backstory of this otherwise rather ordinary orchid. In North Korea it is known as *Kimilsungia*, and in that strange country it is far from an ordinary hybrid. A whole cult has sprung up around it. There is even an annual *Kimilsungia* Festival held in its own festival hall in the capital Pyongyang, which is organized on the Day of the Sun, the modestly named birthday of Kim Il Sung, 15 April.



President Kim Il Sung seeing newly bred Kimilsungia together
with Sukarno, President of the Republic of Indonesia
(April 13, 1965)

From *Encyclopedia of Kimilsungia*

The North Korean propaganda organs are so enchanted with *Kimilsungia* that they have written several books about it and even translated these in English, perhaps thinking that they would help spread the glory of their immortal but late Great Leader. One of those books is called *Encyclopedia of Kimilsungia* (Thak et al., Juche 100 (2011)). Note that North Korea has its own calendar, starting with Year 1, the birth year of Kim Il Sung, 1912. This *Encyclopedia* exemplifies the relentless propaganda that pervades the lives of North Koreans. To me, it is both hilarious and terrifying. Indented quotations below are all taken from the *Encyclopedia*.

The hilarious parts are the many places in the book where Kim Il Sung and his orchid are praised to such an exaggerated extent that it reads like a parody by someone who wants to ridicule the concept of the 'beloved Leader of the people'. This is best conveyed by sharing some quotations.

Kimilsungia, which was named by Sukarno [in 1965, AS], the first President of the Republic of Indonesia, reflecting the desire of the progressive people of the world, is loved by mankind not only because it is beautiful but also it is symbolic of the greatness of President Kim Il Sung.

The editorial board issues *Encyclopedia of Kimilsungia* in reflection of the unanimous will of the Korean people and the world's progressive people who are desirous to bloom Kimilsungia more beautifully and propagate it more widely on the occasion of the centenary of the birth of President Kim Il Sung.

Parts of the *Encyclopedia* are remarkably similar to a speech by Kim Il Sung's son Kim Jong Il, titled "Kimilsungia Is an Immortal Flower That has Bloomed in the Hearts of Mankind in the Era of Independence". This was a lengthy "Talk to the Senior Officials of the Information Department of the Central Committee of the Workers' Party of Korea April 6, Juche 94 (2005)".

By 2005, Kimilsungia Festivals were well established. Where Western orchid shows may have 10,000 plants of hundreds of different species and hybrids, it is done differently in North Korea:

The Seventh Kimilsungia Festival opened in a grand way on the 40th anniversary of the naming of the flower. Over 10 000 pots of Kimilsungia were exhibited, thus making the visitors cherish deep in mind the revolutionary exploits of President Kim Il Sung who devoted his whole life to the country and people. The festival was participated by various units of military organs, ministries, national agencies, provinces, service personnel, people of all walks of life, youth and students of Korea, diplomatic missions and NGOs in Pyongyang, friendship and solidarity organizations and foreign individuals.

The same point was made by Kim Jong Il in his speech, where he said: "Flower fairs and flower exhibitions are held all over the world, where various species of rare flowers are displayed, but there is none like the Kimilsungia Festival, in which one species of flower is exhibited presenting a sea of that flower." Did it not occur to Dear Leader Kim that a flower festival with only one kind of flower might be a bit...limited? Well, perhaps it did occur to him because during those festivals a garish red *Begonia* called *Kimjongilia* is on display too.

Propagandists never shy away from outright lies and fabrications, no matter how obvious. After recalling how Kim Il Sung was praised by Stalin, which is perhaps not the recommendation they think it is, the authors of the *Encyclopedia* write:

In June 1994, former US President Jimmy Carter visited Korea, and met Kim Il Sung. On his way home, he had an interview with journalists and spoke highly of President Kim Il Sung, saying that he was greater than George Washington, Thomas Jefferson and Abraham Lincoln, major presidents of the USA, put together.

What Jimmy Carter actually said was: "You have to remember that at home, President Kim Il Sung is treated as a combination of George Washington, Thomas Jefferson and Abe Lincoln." Spot the difference.

Besides lying a lot, propagandists also tend to get things wrong, often creating the opposite impression of what they aimed for. I could hardly stop laughing when I read the following:

Sukarno paid a congratulatory visit to Kim Il Sung on April 15, latter's birthday, and presented him with a sculpture depicting a general riding *Garuda*, a legendary lobster of Indonesia. He explained that the general on *Garuda* was just Kim Il Sung and *Garuda* was Chollima [a winged horse in Korean mythology, AS] of Indonesia.

What? *Garuda* is a legendary *lobster*? No, my revolutionary friends, *garuda* is Indonesian for 'eagle'. You have created an image of your beloved Kim Il Sung riding a flying lobster, which makes him look rather silly, doesn't it? Judge for yourself:



Kim Il Sung riding a flying lobster. (image produced with *Stable Diffusion*)

Then, tragedy struck. The North Koreans wanted to grow this orchid in their own country, but it had vanished.

But the flower failed to come to Korea owing to the unexpected situation created in Indonesia [Sukarno was sidelined and then deposed by Suharto in 1966/67, AS]. To make the matters worse, the director of the Bogor Botanical Garden disappeared without a trace and the whereabouts of the flower became unknown.

Apparently, this director, named Susanna Kassan in the book, whose actual name was Soedjana (or Sujana) Kassan, had been told by Sukarno to send some plants of *Kimilsungia* to North Korea. He did not disappear (Soediono et al., 2011).

However, convinced that *Kimilsungia* would have been preserved and blown[sic] beautifully by the Indonesian people who deeply respected and revered President Kim Il Sung, Kim Jong Il sent officials to Indonesia in 1974 to find the flower.

Upon arriving in Indonesia, the officials began to trace Susanna Kassan, former director of the garden, and C. L. Bundt, the botanist.

When they finally found out the whereabouts of Kassan, they knew that he had worked as a hotel gardener in remote Bali Island and died of an incurable disease. They were told that Susanna Kassan writhed in agony even in his sickbed of failing to send *Kimilsungia* to President Kim Il Sung.

This anecdote was also recounted by Kim Jong Il in his speech but without the pathetic detail of the last sentence, which must be a later adornment. To cut a long story short, they finally did what they could have done in the first place (if the whole anecdote is not an invention), visit the nursery of Carl Ludwig Bundt, who had bred this hybrid and still lived in Ujung Pandang. He donated some plants of the hybrid to the North Koreans, who then found ways to cultivate and propagate them in North Korea, as if their life depended on it (perhaps it did). More than a decade later, in 1988, a special *Kimilsungia* greenhouse was opened at the botanical garden in Pyongyang, which looked like this:



Greenhouse, North Korean style.

From *Encyclopedia of Kimilsungia*

The following passage from Kim Jong Il's speech should not be left unquoted: "From olden times, flowers have been considered symbols of beauty, love, peace and best wishes. Some flowers are named after their shapes or characteristics, and others after persons. In our country there is the Pongsonhwa (balsam-Tr.) flower named after a girl named Pong Son, and in China the Yangguifei (poppy-Tr.) flower named after a Tang Dynasty beauty. There are also flowers named after florists and plant collectors. But none had previously been named after a great man." Another lie. Many plants have been named after 'great men', however these are defined.

Kim Jong Il also gave some idea about the massive amount of effort expended on growing *Kimilsungia* in North Korea: "Today, *Kimilsungia* is cultivated in every part of the country—in Pyongyang, in the Mt. Paektu area and on Yonbaek Plain. A modern breeding centre for the flower was set up in the Central Botanical Garden, and more than 300 greenhouses for cultivating it were built in various places of the country. The fact that these modern greenhouses were built in the most difficult days of the 'Arduous March' and forced march demonstrates how warmly our soldiers and people revere President Kim Il Sung and how earnestly they miss

him. The two plants of Kimilsungia, a flower that was bred in a tropical island country in honour of a great man and that struck its root in our country, have increased to an inestimable number today because of the loyal hearts of our soldiers and people. (...)

We should not limit the cultivation of the flower to specialists, but turn it into a work of the entire country and all the people. We should ensure that cultivating and propagating Kimilsungia is not a process of simply cultivating and propagating a rare flower but a process during which one cherishes loyalty to the Party and the leader, and displays it to the full.

Education by means of Kimilsungia is of great significance in enlightening the people in the greatness of President Kim Il Sung.”

Imagine having to hear this kind of drivel day in, day out. But what about the name of this orchid? It is of course nonsense to use a genus name like *Kimilsungia* for a *Dendrobium* hybrid. That was apparently just a casual suggestion by Sukarno, who can be excused for not knowing such things. One of Sukarno’s sons was better informed, if the *Encyclopedia* is to be believed, for he had the hybrid registered:

After the President’s return to Korea, Sukarno kept Kimilsungia in his mansion and watched the flower for a long while whenever he yearned after the President. Guntur Sukarno Putera [usually spelled Sukarnoputra, AS], who knew his father’s mind better than anybody else, decided to register Kimilsungia and widely introduce it to the world and submitted the application to the international orchid-related society. On April 20, 1982, Kimilsungia was registered to the international orchid-related society in Britain. Kimilsungia was introduced as a *Dendrobium* KIMILSUNG FLOWER in the periodical issued by the society. From then on Kimilsungia secured its unchallengeable status as a famous flower acknowledged by the International Society for Horticultural Science and a common treasure of mankind.

The ‘International Society for Horticultural Science’ is of course the Royal Horticultural Society. According to its [International Orchid Register](#) there is indeed a *Dendrobium* Kimilsung Flower, which was registered on 1 January 1982; the originator (the plant breeder) is given as C. Bundt, and the registrant as G. Putera (Sukarno’s son, according to the *Encyclopedia*). However, there is also a *Dendrobium* Kim Il Sung, registered on 1 January 1970, registrant unknown, originator C. Bundt. There is even a *Dendrobium* Kimilsungia, which was registered as late as 7 March 2003, again with unknown registrant and originator C. Bundt. Both *Dendrobium* Kim Il Sung and *D. Kimilsungia* have the same parentage as *D. Clara* Bundt (*D. Ale Ale Kai* × *D. Pompadour*), registered by C. Bundt on 1 January 1964, and are therefore synonyms. *Dendrobium* Kimilsung Flower is a different hybrid (*D. Ale Ale Kai* × *D. Lady Constance*). The *Encyclopedia* has a detailed chapter on the parentage of *Kimilsungia*, which is given as being the same as that of *D. Kimilsung* Flower. If this were true, then the commonly held opinion (e.g., Soediono et al., 2011) that *Kimilsungia* is a synonym of *Dendrobium* Clara Bundt would be mistaken. According to the *Encyclopedia* Bundt made the cross *D. Ale Ale Kai* × *D. Lady Constance* in 1962, and it first flowered in 1965. Is this the hybrid that was shown to Kim Il Sung in Bogor in April 1965? Or was it *D. Clara* Bundt? It is well possible that the plant shown in 1965, which Sukarno proposed to name after Kim Il Sung, and the plants that eventually came to North Korea were not the same hybrid. The *Encyclopedia* also suggests that *Kimilsungia* is not the name of the grex but a selected clone of *D. Kimilsung* Flower:

Among the hybrids obtained from the crossings between the male and female parents of Kimilsungia, the most beautiful plant with crimson violet petals and sepals and especially white-tipped sepal was selected and named Kimilsungia.

If this were the case, then the correct name for *Kimilsungia* would be *Dendrobium* Kimilsung

Flower grex 'Kimilsungia'. Without a lot of further research, it will be difficult to get to the bottom of the matter (who registered *D. Kim Il Sung* and *D. Kimilsungia* and how accurate is the stated parentage?). Sources like the *Encyclopedia* are clearly unreliable. What is indisputable, however, is that *Kimilsungia* is an unremarkable *bigibbum*-type *Dendrobium* hybrid. There are hundreds like it. It is also indisputable, that making fun of the official North Korean craze about this orchid would be a dangerous thing to do for a North Korean, punishable by years of forced labour, if not death, and that is what makes a work such as this *Encyclopedia* terrifying. All that effort to propagate not just a random orchid but also to enforce by any means a ridiculous pack of lies is mind boggling and depressing. And don't get me started on *Kimjongilia*!



National meeting to mark the 40th anniversary of the naming of Kimilsungia

Western orchid societies would be jealous of such attendance figures.

From *Encyclopedia of Kimilsungia*

References

Soediono, N., Arditti, J., and Soediono, R. 2011. *Kimilsungia*: How an Indonesian orchid became a revered symbol in the Democratic People's Republic of Korea after its name was changed. *Plant Science Bulletin* 57(3): 103–113

(https://botany.org/userdata/IssueArchive/issues/originalfile/PSB_2011_57_3.pdf).

Thak, S. I., Jon S. I., Ri M. H., and An S. Y. (eds.). 2011. *Encyclopedia of Kimilsungia*. Foreign Languages Publishing House, Pyongyang, Korea, Juche 100 (2011), 343 pp.

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Please click [here](#) for the Repository of past issues of the Orchid Research Newsletter, starting with issue 39 (2002).

Upcoming Conferences

We welcome any news about future orchid conferences for promotion here. Please send details to the editor as far in advance of the event as possible, remembering that the *Orchid Research Newsletter* is published only in January and July of each year.



The dates for the **8th International Orchid Conservation Congress** have been finalised:

Congress 3–6 September 2024

Post-congress fieldtrip 8–10 September 2024

Further details can be found on the Congress website: <https://iocc8.com/>

The Congress will be held at Curtin University, and it will be followed by an exciting fieldtrip to see some of the orchids (and other plants) of the SW Australia Biodiversity Hotspot.



The **23rd World Orchid Conference** will be held in Tainan, Taiwan, from 25 to 28 February 2024. See <https://en.woc23.com>

Jobs

We will be happy to announce job opportunities, provided they explicitly involve orchid research or conservation. Please send details to the editor.

Funding Opportunities

We will be happy to announce funding opportunities, provided they explicitly involve orchid research or conservation. Please send details to the editor.

The **American Orchid Society** is soliciting grant proposals for orchid research. Deadline is 1 March of each year. For application instructions see <http://www.aos.org/about-us/orchid-research/application-guidelines.aspx>

News from Correspondents

Please submit any news about recently completed research, future research plans and needs, change of address, upcoming or recent fieldwork, etc. to the editor. Graduate students are especially encouraged to share the subjects of their thesis or dissertation with the international community.

State-of-the-art conservation translocation of one of world's rarest slipper orchids

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Globally, slipper orchids are probably in faster decline than any other orchid group. There are about ten species of *Paphiopedilum* recorded in India. Except for the endemic *Paphiopedilum druryi* (Bedd.) Stein ('Drury's *Paphiopedilum*' or 'Golden Paph'), these species are all found in the north-eastern regions of India. The global population of *P. druryi*, about a couple of hundred plants, is contained in the Agasthyamala Biosphere Reserve, in south India (a UNESCO Biosphere Reserve). The subpopulations are restricted to a very small area in the Kerala-Tamil Nadu border regions of the Western Ghats, a Global Biodiversity Hotspot. Landslides, illegal collecting, trampling due to closeness of the locations to tourist sites, fire, lack of natural recruitment of seedlings, and inadequate protection mechanisms are the current threats for its continued existence.



Paphiopedilum druryi in situ. Photo William Decruse

This lithophytic orchid is found in a rocky habitat which likely makes it more prone to extinction in an era of climate change and increased anthropogenic threats. The ecology of this species is unique as it always co-occurs with the endemic grass *Zenkeria sebastinei* A.N.Henry & Chandrab. According to IUCN data published in 2015 the rate of decline is 90% within the last three generations, and the species may become extinct in the wild within the next 100 years. Additionally, adverse effects of climate change and anthropogenic threats are making it even more vulnerable. Without immediate and serious intervention for its conservation a realistic scenario is that this species may become extinct in the wild within a few decades.

Previous efforts by scientists from the Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI) in Kerala helped to boost the *ex situ* germplasm collection and led to the reintroduction of around 50 plants. The Royal Botanic Gardens, Kew, with JNTBGRI and other partners supervised by the Kerala State Council for Science, Technology and Environment are planning to fundraise for the conservation translocation (through reinforcement, reintroduction, and introduction) of *P. druryi* to prevent extinction of this charismatic species. This will be done with the support of the Forest Department of Kerala for the protection of populations once they are re-established in the wild.

Understanding soil conditions in the niche habitat they colonise is critically important for its recovery and restoration back in the wild. As part of the project, we are aiming to study soil microbiome of the remaining site and potential receiver sites to identify areas that are compatible to augment populations back in the wild. A toolkit to understand the soil characteristics, community composition of soil microbiome and the distribution of the endemic grass, *Zenkeria sebastinei* in the receiver sites will help identify areas for successful colonisation of this species. To increase survival back in the wild we will raise large numbers of seedlings *in vitro* and harden them using state-of-the-art methods. Potential benefits of this project will also include improving availability of plants for breeding and genetic diversity for commercial horticulture and to reduce illegal collecting from the wild.

The aim is to grow thousands of seedlings in the next five years to make the plants available for both conservation translocation projects, education and engagement programmes. This will help raise awareness about the plight of other species that are on the brink of extinction and the critical nature of conservation actions required. The seedlings grown at Kew and partnering Indian institutions will be used for educating school children about the urgency of preventing extinction and the science of conserving orchids on the brink. Empowering children will help protect the remaining biodiversity for future generations in an era of climate change and increased anthropogenic threats.



Paphiopedilum druryi. Photo Pankaj Kumar

Recent Orchid Nomenclature

New orchid names may be retrieved from the revamped IPNI website: <https://www.ipni.org/>. Click on “Advanced search”; after the search page appears, type in **Orchidaceae** under family name and select a date in “Recorded after”. This will pull up a list of all orchid names added to the IPNI database since that date. Also be sure to check the Plants of the World Online website (<https://powo.science.kew.org/>) which provides similar information with added maps and illustrations.

Recent Literature

If you are aware of any relevant and recent citations that should have been listed here or in the previous issues, please send them to the editor for publication in the next issue (July 2024). Book citations should include author(s), year of publication, title, publisher, and place of publication (in that order). Journal titles should be spelled out in full.

Anatomy and morphology

Bateman, R. M., Stott, K. M., and Pearce, D. F. 2023. Trait analysis in a population of the Greater Butterfly-orchid observed through a 16-year period. *Frontiers in Plant Science* 14: (<https://doi.org/10.3389/fpls.2023.1213250>) [*Platanthera chlorantha*].

Cui, Y. F., Zhou, T., Wei, Y. R., Wang, D. Q., Liang, W. Y., and Yang, S. J. 2023. Pollinium development and sporoderm structure of *Dendrobium officinale*. *Flora: Morphology, Distribution, Functional Ecology of Plants* 305: art. 152345 (<https://doi.org/10.1016/j.flora.2023.152345>).

Dos Santos, I. S., Melo-de-Pinna, G. F. D. A., and Da Silva, M. J. 2023. Comparative anatomy of the vegetative systems of eight *Cyrtopodium* R. Br. species (Orchidaceae, Epidendroideae) occurring in Central Brazilian savannas. *Flora: Morphology, Distribution, Functional Ecology of Plants* 307: art. 152384 (<https://doi.org/10.1016/j.flora.2023.152384>).

Lee, Y. I. and Yeung, E. C. 2023. The orchid seed coat: a developmental and functional perspective. *Botanical Studies* 64(1): art. 27 (<https://doi.org/10.1186/s40529-023-00400-0>).

Lestari, N. K. D., Deswiniyanti, N. W., Sari, N. K. Y., Murna, I. M., and Rizqy, A. N. 2023. Morphological relationships and cross compatibility of seven *Dendrobium* species in Indonesia. *Biodiversitas* 24(6): 3550–3558 (<https://doi.org/10.13057/biodiv/d240654>).

Nishimura, G., Kaburagi, K., Lee, Y. I., and Yukawa, T. 2023. Development of sclerotic and winged seeds of *Cyrtosia septentrionalis* (Rehb. f.) Garay and *Erythrorchis altissima* (Blume) Blume (Orchidaceae). *Taiwania* 68(3): 359–367 (<https://doi.org/10.6165/tai.2023.68.359>).

Paušič, I., Ivajnsič, D., Pipenbaher, N., and Bešter, M. 2022. Intraspecific morphological variability in the genus *Ophrys* (Orchidaceae) is driven by changing environments. *Wulfenia* 29: 47–60.

Santos, I. S. D. and Silva, M. J. D. 2023. Anatomy and histochemistry of the vegetative system of *Brachystele guayanensis* (Lindl.) Schltr. (Orchidaceae), a potential medicinal species. *Plants* 12(14): art. 2635 (<https://doi.org/10.3390/plants12142635>).

Shreyas, B. and Kotresha, K. 2023. Study on leaf venation of four *Nervilia* (Orchidaceae) from the state of Karnataka, India. *Richardiana*, nouv. sér. 7: 180–186 (<https://www.richardiana.jardinbotaniquedeguyane.com/wp-content/uploads/2023/07/Leaf-venation-of-four-Nervilia.pdf>).

Takahashi, H. 2023. Quantitative variability of flower color and outer morphological traits in *Cypripedium macranthos* s. lat. (Orchidaceae) on Rebun Island, Hokkaido, Japan. *Acta Phytotaxonomica et Geobotanica* 74(1): 105–120 (<https://doi.org/10.18942/apg.202114>).

Tyteca, D. and Gathoye, J. L. 2023. Analyses morphométriques des groupes de *Dactylorhiza majalis* et *D. traunsteineri* (Orchidaceae) dans la Région Grand Est (France). *Les Naturalistes Belges* 103(2): 1–22.

Bioinformatics

Xiao, K., Zhou, L., Yang, H., and Yang, L. 2022. *Phalaenopsis* growth phase classification using convolutional neural network. *Smart Agricultural Technology* 2: art. 100060 (<https://doi.org/10.1016/j.atech.2022.100060>).

Books

Hew, C. S. and Wong, Y. S. 2023. *Chinese Cymbidium Orchid: a Gentleman of Noble Virtue*. World Scientific Publishing, Singapore.

Jin, X., Li, J., and Ye, D. 2023. *Atlas of Chinese Native Orchids*. Springer, Singapore.

Rawat, G. S., Jalal, J. S., and Singh, G. 2023. *Orchids of Uttarakhand. A Field Guide*. Bishen Singh Mahendra Pal Singh, Dehra Dun.

Wing, Y. T. 2023. *Native Orchids of Singapore. Diversity, Identification and Conservation*. 2nd revised & updated edition. National Parks Board Singapore.

Conservation

Alanís-Méndez, J. L., Martínez-Castillo, I. A., Viveros-Valencia, J., Sosa-Constantino, F. G., and Limón-Salvador, F. 2023. Archaeological sites as a safeguard for orchid diversity: A study in El Tajín, Veracruz, Mexico. *Natural Areas Journal* 43(3): 179–184 (<https://doi.org/10.3375/22-23>).

Maris, L., Petrolli, R., Selosse, M. A., Legland, T., Pache, G., Griveau, C., Torre, F., Lopez-Pinot, D., Marciau, R., and Bonnet, V. 2023. Impact of the local environmental factors associated to plant-fungi communities on the conservation of *Liparis loeselii* (L.) Rich. in the French Rhône-Alpes region. *Acta Oecologica* 120: art. 103929 (<https://doi.org/10.1016/j.actao.2023.103929>).

Md-Isa, S. F., Nior, M., Razali, H. I., Godoong, E., Rusdi, N. A., Tangki, H., and Raffi, A. 2023. Orchid resilience: A case of a logged-over forest in Sabah, Malaysia. *Malayan Nature Journal* 75(2): 251–258.

Metusala, D., Erlinawati, I., Angio, M. H., Yusuf, H. M., and Budiarto, K. 2023. Study of population and conservation of *Dendrobium capra* J.J. Smith, an endangered and endemic orchid from Java Island, Indonesia. *Journal for Nature Conservation* 75: art. 126476 (<https://doi.org/10.1016/j.jnc.2023.126476>).

Cytogenetics/Horticultural genetics

Sevilleno, S. S., An, H. R., Cabahug-Braza, R. A. M., Ahn, Y. J., and Hwang, Y. J. 2023. Cytogenetic study and pollen viability of *Phalaenopsis* Queen Beer ‘Mantefon’. *Plants* 12(15): art. 2828 (<https://doi.org/10.3390/plants12152828>).

Turco, A., Albano, A., Medagli, P., Wagensommer, R. P., and D’Emerico, S. 2023. Comparative cytogenetic of the 36-chromosomes genera of Orchidinae subtribe (Orchidaceae) in the Mediterranean region: a summary and new data. *Plants* 12(15): (<https://doi.org/10.3390/plants12152798>) [*Anacamptis*, *Himantoglossum*, *Ophrys*, *Serapias*].

Ecology

Boboc, M., Deak, G., Sadica, I., Craciun, N., Holban, E., and Burlacu, L. 2023. Temperate terrestrial orchid density reflects grassland management practices—A case study in Bucovina highlands. *Journal of Environmental Protection and Ecology* 24(4): 1164–1174.

Détrez, É. 2021. Découverte de *Cephalanthera longifolia* à une altitude inhabituelle. *Bulletin de la Société Française d’Orchidophilie Rhône-Alpes* 44: 59–62.

Fekete, R., Vincze, O., Nagy, J., Löki, V., Süveges, K., Bódis, J., Malkócs, T., Lovas-kiss, Á., and Molnár V, A. 2023. North-facing roadside slopes: Anthropogenic climate microrefugia for orchids. *Global Ecology and Conservation* 47: art. e02642 (<https://doi.org/10.1016/j.gecco.2023.e02642>) [Europe].

Feng, J. Q., Zhang, W., and Zhang, S. B. 2023. Floral bud dormancy is responsible for the different flowering times of six *Pleione* species. *Global Ecology and Conservation* 46: art. e02597 (<https://doi.org/10.1016/j.gecco.2023.e02597>).

Kindlmann, P., Kull, T., and Whigham, D. 2023. Editorial: Challenges and opportunities in orchid ecology and conservation. *Frontiers in Ecology and Evolution* 11: art. 1226614 (<https://doi.org/10.3389/fevo.2023.1226614>).

Niculescu, M., Iancu, P., Nuță, I. S., and Păniță, O. F. 2023. Evaluation of phenotypic diversity in *Anacamptis coriophora* (Orchidaceae) populations from South Romania. *Notulae Botanicae Horti Agrobotanici Cluj-Napoca* 51(2): <https://doi.org/10.15835/nbha51213199>.

Qiu, L., Jacquemyn, H., Burgess, K. S., Zhang, L. G., Zhou, Y. D., Yang, B. Y., and Tan, S. L. 2023. Contrasting range changes of terrestrial orchids under future climate change in China. *Science of the Total Environment* 895: art. 165128 (<https://doi.org/10.1016/j.scitotenv.2023.165128>).

Tian, L., An, M., Wu, M., Liu, F., and Zhang, Y. 2023. Habitat ecological characteristics and soil fungal community structure of *Paphiopedilum* subgenus *Brachypetalum* Hallier (Orchidaceae) plants in Southwest China. *Plant Signaling and Behavior* 18(1): art. 2227365 (<https://doi.org/10.1080/15592324.2023.2227365>).

Usmadi, D., Wati, R. K., Cahyaningsih, R., and Purnomo, D. W. 2023. *Crepidium ridleyi* (J.J.Sm.) Szlach., a threatened endemic terrestrial orchid of Java: A Maxent modeling to predict the current and future potential distribution. *IOP Conference Series: Earth and Environmental Science* 1192: art. 012013 (<https://doi.org/10.1088/1755-1315/1192/1/012013>).

Wang, X. M., Peng, P. H., Bai, M. Y., Bai, W. Q., Zhang, S. Q., Feng, Y., Wang, J., and Tang, Y. 2023. Impacts of physiological characteristics and human activities on the species distribution models of orchids taking the Hengduan Mountains as a case. *Ecology and Evolution* 13(10): art. e10566 (<https://doi.org/10.1002/ece3.10566>).

Wati, R. K., Gravendeel, B., Langelaan, R., Van Heuven, B. J., Claessens, J., Kleynen, J., Smets, E. F., De Winter, A. J., and Van der Meijden, A. 2023. Orchids reduce attachment of herbivorous snails with leaf trichomes. *PLoS ONE* 18(8 AUGUST): art. e0285731 (<https://doi.org/10.1371/journal.pone.0285731>).

Zheleznaya, E. L., Zverev, A. A., and Stepantsova, N. V. 2023. Habitats and population structure of rare orchids from the genus *Cypripedium* in Siberia. *Botanica Pacifica* 12(2): 64–72 (<https://doi.org/10.17581/bp.2023.12s04>).

Ethnobotany/(Ethno)pharmacology

Adams, P. 2023. Dendrobiums in traditional Chinese medicine. *Orchid Digest* 87(4): 297–300.

Adams, S. J., Kumar, T. S., and Muthuraman, G. 2023. Phytochemistry and biological activities of *Crepidium acuminatum* (D. Don) Szlach.: A systematic review. In: Pullaiah, T. (ed.), *Phytochemistry and Pharmacology of Medicinal Plants*, vol. 1: 295–301. Apple Academic Press, New York (<https://doi.org/10.1201/9781003334873>).

Avianto, B. N., Marjanto, D. K., Ulumuddin, I., Sudrajat, U., and Julizar, K. 2023. Ethnotechnology Noken-Papua as carrying capacity for enhancing local economic development. *International Journal of Social Economics* 48(10): 1476–1491 (<https://doi.org/10.1108/IJSE-12-2020-0819>) [*Dendrobium*].

Balilashaki, K., Martinez-Montero, M. E., Vahedi, M., Cardoso, J. C., Silva Agurto, C. L., Leiva-Mora, M., Feizi, F., and Musharof Hossain, M. 2023. Medicinal use, flower trade, preservation and mass propagation techniques of *Cymbidium* orchids—An overview. *Horticulturae* 9(6): art. 690 (<https://doi.org/10.3390/horticulturae9060690>).

Buacheen, P., Karinchai, J., Inthachai, W., Butkinaree, C., Jankam, C., Wongnoppavich, A., Imsumran, A., Chewonarin, T., Pimpha, N., Temviriyankul, P., and Pitchakarn, P. 2023. The toxicological assessment of *Anoectochilus burmannicus* ethanolic-extract-synthesized selenium nanoparticles using cell culture, bacteria, and *Drosophila melanogaster* as suitable models. *Nanomaterials* 13(20): art. 2804 (<https://doi.org/10.3390/nano13202804>).

Caliskan, O., Beşir, A., Anıl, M., Gülser, C., Yazıcı, F., and Kurt, D. 2023. Morphologic and chemical characterizations of some salep orchids. *Eurasian Journal of Soil Science* 12(4): 344–351 (<https://doi.org/10.18393/ejss.1333347>).

Das, D., Boruah, T., and Ansari, M. J. 2023. *Malaxis muscifera* (Lindley) O. Kuntze. and *Malaxis acuminata* D. Don.: Jeevak[sic]. In: Sharma, A. and Nayik, G. A. (eds.), *Immunity Boosting Medicinal Plants of the Western Himalayas*, pp. 317–334. Springer, Singapore. (https://doi.org/10.1007/978-981-19-9501-9_14).

Fan, C., Sun, X., Wang, X., and Yu, H. 2023. Therapeutic potential of the chemical composition of *Dendrobium nobile* Lindl. *Frontiers in Pharmacology* 14: art. 1163830 (<https://doi.org/10.3389/fphar.2023.1163830>).

Gaba, J., Sood, P., Kaur, P., and Verma, D. 2023. *Habenaria intermedia* D. Don and *Habenaria edgeworthii* Hook., f.[sic] ex Collett. In: Sharma, A. and Nayik, G. A. (eds.), *Immunity Boosting Medicinal Plants of the Western Himalayas*, pp. 205–230. Springer, Singapore. (https://doi.org/10.1007/978-981-19-9501-9_9).

Gogoi, P. and Sen, S. 2023. Orchids of Dibru-Saikhowa: A systematic review on their traditional use, pharmacological activity and phytochemistry. *Current Topics in Medicinal Chemistry* 23(24): 2277–2299 (<https://doi.org/10.2174/1568026623666230830125205>).

Hussain, K., Dar, M. E. U. I., Mehmood, A., Sabir, S., Awan, M. S., Ahmad, K. S., and Bussmann, R. W. 2023. Ethnomedicinal uses and conservation status of medicinal orchids from Western Himalayas of Azad Jammu & Kashmir, Pakistan. *Ethnobotany Research and Applications* 26: art. 1 (<https://doi.org/10.32859/era.26.1.1-13>).

Kanca, N. 2023. A study on some functional properties of salep obtained from *Orchis sancta* and its use in ice cream mixture model systems. *Journal of Food and Nutrition Research* 62(2): 129–139.

Lhamo, P., Kumar, A., Mahanty, B., and Choudhury, B. 2023. Foxtail Orchid (*Rhynchostylis retusa*): Anti-diabetic properties, biodiversity, and propagation. Pp. 205–220 in: Rajendram, R., Preedy, V., and Patel, V. (eds.), *Ancient and Traditional Foods, Plants, Herbs and Spices used in Diabetes*. CRC Press, Boca Raton. (<https://doi.org/10.1201/9781003220930-16>).

Li, K., Wu, F., Chen, M., Xiao, Z., Xu, Y., Xu, M., Liu, J., and Xu, D. 2023. Identification, biological function profiling and biosynthesis of secondary metabolites in medicinal orchids. *Metabolites* 13(7): art. 829 (<https://doi.org/10.3390/metabo13070829>).

Mukherjee, S., Nangare, N., and Jagtap, S. 2023. Use of orchids in Ayurveda: Is substitution scientific and appropriate? *Journal of Natural Remedies* 23(4): 1173–1190 (<https://doi.org/10.18311/jnr/2023/31375>).

Nuthan, B. R., Meghavarshinigowda, B. R., Mahadevakumar, S., Marulasiddaswamy, K. M., Rakshith, D., Sridhar, K. R., and Satish, S. 2023. Ethnomedicinal significance of epiphytic orchids and their fungal endophytes. In: Öztürk, M., Sridhar, K. R., Sarwat, M., Altay, V., and Huerta-Martínez, F. M. (eds.), *Ethnic Knowledge and Perspectives of Medicinal Plants: Volume I: Curative Properties and Treatment Strategies*, pp. 577–624. Apple Academic Press, New York. (<https://doi.org/10.1201/9781003352983-26>).

Oskouei, Z., Rahbardar, M. G., and Hosseinzadeh, H. 2023. The effects of *Dendrobium* species on the metabolic syndrome: A review. *Iranian Journal of Basic Medical Sciences* 26(7): 738–752 (<https://doi.org/10.22038/IJBMS.2023.65997.14512>).

Pojthum, N., Obsuwan, K., and Ngampanya, B. 2023. Production of biomass and bioactive compounds in protocorm-like bodies of *Dendrobium* Sonia ‘Jo Daeng’ and *Dendrobium officinale* under static condition culture. *AIP Conference Proceedings* 2669: art. 020001 (<https://doi.org/10.1063/5.0121052>).

Pomini, A. M., Sahyun, S. A., Oliveira, S. M., and Faria, R. T. 2023. Bioactive natural products from orchids native to the Americas—A review. *Anais da Academia Brasileira de Ciencias* 95: art. e20211488 (<https://doi.org/10.1590/0001-3765202320211488>).

Rajput, D., Gogoi, I., Saikia, S., Saikia, L. R., and Chetia, P. 2023. Phytochemical and antioxidant analysis of musky smelling *Dendrobium moschatum* and screening of its antibacterial potential. *Research Journal of Biotechnology* 18(9): 182–190 (<https://doi.org/10.25303/1809rjbt1820190>).

Rivera, L. L., Barragan Zarate, G. S., Solano, R., Aguilera, A. A., and Chavez Piña, A. E. 2023. Mexican orchid (*Prosthechea karwinskii*) and use in cardiovascular protection: cellular and physiological aspects. In: Rajendram, R., Preedy, V., and Patel, V. (eds.), *Ancient and Traditional Foods, Plants, Herbs and Spices used in Cardiovascular Health and Disease*, pp. 259–280. CRC Press, Boca Raton (<https://doi.org/10.1201/9781003220329-19>).

Runtuboi, Y. Y., Padang, D. A., Peday, M. H., Arobaya, A. Y. S., Ungirwalu, A., Auri, A., Dimara, P. A., Susanti, C. M. E., Panambe, N., and Benu, N. M. H. 2023. The indigenous art of orchid noken making by the Mee Tribe in the highland of Central Mountains, Indonesian Papua. *Biodiversitas* 24(7): 3881–3890 (<https://doi.org/10.13057/biodiv/d240727>) [*Dendrobium*].

Şavşatlı, Y. 2023. Identification of volatile compounds in salep (*Serapias vomeracea*) tubers and effects of harvest time and drying method on composition variation. *Ciencia e Agrotecnologia* 47: art. e002223 (<https://doi.org/10.1590/1413-7054202347002223>).

Shrivastava, A. and Jain, S. 2023. *Dactylorhiza hatagirea* (D.Don) Soo: Himalayan Marsh Orchid. In: Sharma, A. and Nayik, G. A. (eds.), *Immunity Boosting Medicinal Plants of the Western Himalayas*, pp. 145–171. Springer, Singapore. (https://doi.org/10.1007/978-981-19-9501-9_6).

Targu, M., Debnath, S., and Kumaria, S. 2023. Biotechnological approaches for in vitro propagation, conservation and secondary metabolites production in *Bulbophyllum*, an endangered orchid genus: a review. *3 Biotech* 13(10): art. 330 (<https://doi.org/10.1007/s13205-023-03750-5>).

Yusuf, N., Masor, N. F., Zolkeflee, P., Zakaria, N. S., Abdul Wahab, N. H., Asari, A., and Aziz, A. N. 2023. Qualitative phytochemical analysis, enzymatic and non-enzymatic antioxidant activities in stems and leaves of *Vanilla planifolia* (Orchidaceae). *Food Research* 7(3): 165–172 ([https://doi.org/10.26656/fr.2017.7\(3\).008](https://doi.org/10.26656/fr.2017.7(3).008)).

Zhang, Y.-W., Shi, Y.-C., and Zhang, S.-B. 2023. Metabolic and transcriptomic analyses elucidate a novel insight into the network for biosynthesis of carbohydrate and secondary metabolites in the stems of a medicinal orchid *Dendrobium nobile*. *Plant Diversity* 45(3): 326–336 (<https://doi.org/10.1016/j.pld.2022.10.004>).

History

Blanco, M. A. 2023. Charles H. Lankester y el desarrollo histórico del Jardín Botánico Lankester: línea de tiempo y bibliografía anotada. *Lankesteriana* 23(3): 529–584 (<https://doi.org/10.15517/lank.v23i3.58040>).

De Angelli, N. 2023. Die Historie der Orchideen. Teil 1. *Die Orchidee* 74(3): 188–193.

Ossenbach, C. 2023. Orchids of the Southern Cone (1830–2000)—Part III. Karl Friedrich Reiche’s *Orchidaceae Chilensis* and a commentary about Friedrich Wilhelm Ludwig Kraenzlin’s *Orchidacearum Genera et Species* (Vol. 2, Part I). *Lankesteriana* 23(2): 161–179 (<https://doi.org/10.15517/lank.v23i2.55710>).

Ossenbach, C. 2023. Orchids of the Southern Cone (1830–2000)—Part IV. Maevia Noemí Correa’s *Flora Patagonica*. *Lankesteriana* 23(3): 511–528 (<https://doi.org/10.15517/lank.v23i3.58132>).

Pérez, F. J. S. V. and Arias, J. P. 2023. “The Flowering of the Strange Orchid”: from plant science to Victorian horror from a multidisciplinary approach. *Brumal* 11(1): 21–43 (<https://doi.org/10.5565/rev/brumal.960>).

Seaton, P. T. 2023. *Odontoglossum crispum*: a tale of love, loss and scientific discovery. *Lankesteriana* 23(3): 593–612 (<https://doi.org/10.15517/lank.v23i3.58144>).

Wang, J. 2023. The life of Xuan Zhou, founding father of the *Gastrodia elata* cultivation and industry in China. *Plant Diversity* 45(3): 241–242 (<https://doi.org/10.1016/j.pld.2023.03.010>).

Horticultural science

Cho, A., Chung, S. W., and Kim, Y. J. 2024. Calcium ammonium nitrate applications for improved leaf growth and photosynthetic responses in the CAM orchid *Phalaenopsis* under elevated CO₂ in a greenhouse. *Scientia Horticulturae* 324: art. 112601 (<https://doi.org/10.1016/j.scienta.2023.112601>).

Lestari, N. K. D., Deswiniyanti, N. W., Sari, N. K. Y., Murna, I. M., and Rizqy, A. N. 2023. Morphological relationships and cross compatibility of seven *Dendrobium* species in Indonesia. *Biodiversitas* 24(6): 3550–3558 (<https://doi.org/10.13057/biodiv/d240654>).

Ruamrungsri, S., Pechkaow, P., Inkham, C., and Panjama, K. 2023. Effects of short day and temperature on growth and flowering of *Vanda* hybrid. *Acta Horticulturae* 1377: 181–185 (<https://doi.org/10.17660/ACTAHORTIC.2023.1377.22>).

Sitinjak, R. R. 2023. Potential of liquid organic fertilizer from horse and cow urine on shoot growth of *Cattleya labiata* Lindl. *Ornamental Horticulture* 29(2): 126–134 (<https://doi.org/10.1590/2447-536X.v29i2.2552>).

Soelistijono, R., Jakti, A. W., Budiyo, A., and Suprpti, E. 2023. The uses of *Rhizoctonia* mycorrhizae as a dry resistance induction of *Dendrobium aggregatum* seedlings. *Malaysian Applied Biology* 52(2): 147–151 (<https://doi.org/10.55230/mabjournal.v52i2.1994>).

(Micro)propagation/Seed germination/Cryopreservation

Andriolli, B. V., Corredor-Prado, J. P., Pescador, R., Montoya-Serrano, F. S., Vesco, L. L. D., and Suzuki, R. M. 2023. Morpho-anatomy of in vitro germination and cryopreservation of the orchid *Cattleya crispa* (Orchidaceae). *Revista de Biología Tropical* 71(1): art. e52338 (<https://doi.org/10.15517/REV.BIOL.TROP.V71I1.52338>).

Aytar, E. C. and Kömpe, Y. Ö. 2023. Effect of different substrates on in vitro symbiotic seed germination for soilless production of *Anacamptis laxiflora* orchid. *Acta Botanica Croatica* 82(2): 101–108 (<https://doi.org/10.37427/botcro-2023-010>).

Bautista, N. S. and Valentino, M. J. G. 2023. Symbiotic propagation of *Dendrobium bigibbum* Lindl. with selected saprophytic Basidiomycota. *Biodiversitas* 24(6): 3519–3527 (<https://doi.org/10.13057/biodiv/d240650>).

Datarun, S., Obsuwan, K., and Ngampanya, B. 2023. Biosynthesis of silver nanoparticles using Pomelo green peel extract and application for *Dendrobium officinale* protocorm-like bodies culture. *AIP Conference Proceedings* 2669: art. 020002 (<https://doi.org/10.1063/5.0120999>).

De Medeiros, L. B., de Souza, A. M. B., Vieira, G. R., Ferreira, K. B., Campos, T. S., Pivetta, K. F. L., and Rigobelo, E. C. 2023. Growth-promoting microorganisms in the development of orchid seedlings of *Phalaenopsis*, *Cymbidium*, and *Dendrobium* genera. *Bioscience Journal* 39: art. e39092 (<https://doi.org/10.14393/BJ-v39n0a2023-66721>).

Diantina, S., McGill, C., McCormick, A. C., Millner, J., Pritchard, H. W., and Nadarajan, J. 2023. Comparative seed cryopreservation of Indonesian and New Zealand epiphytic and terrestrial orchids. *Cryo-Letters* 44(4): 197–207 (<https://doi.org/10.54680/fr23410110312>).

Fatahi, M., Anghelescu, N. E., Vafaei, Y., and Khoddamzadeh, A. 2023. Micropropagation of *Dactylorhiza umbrosa* (Kar. & Kir.) Nevski through asymbiotic seed germination and somatic embryogenesis: A promising tool for conservation of rare terrestrial orchids. *South African Journal of Botany* 159: 492–506 (<https://doi.org/10.1016/j.sajb.2023.06.036>).

Freestone, M., Linde, C., Swarts, N., and Reiter, N. 2023. Asymbiotic germination of *Prasophyllum* (Orchidaceae) requires low mineral concentration. *Australian Journal of Botany* 71(2): 67–78 (<https://doi.org/10.1071/BT22116>).

Hussien, M., Molkanova, O., and Mitrofanova, I. V. 2023. Micropropagation of *Trichopilia suavis* Lindl. & Paxton. *Ornamental Horticulture* 29(3): 365–374 (<https://doi.org/10.1590/2447-536X.v29i3.2653>).

Lal, A., Pant, M., Kumar, A., Palni, L. M. S., Singh, A., Siddiqui, M. R., and Husen, A. 2023. Clonal propagation and hardening of epiphytic orchids (*Aerides multiflora* and *Rhyncostylis[sic] retusa*) for sustainable conservation and utilization. *South African Journal of Botany* 162: 402–411 (<https://doi.org/10.1016/j.sajb.2023.09.029>).

Lin, W., Li, Y., Liang, J., Liu, Y., Chen, P., He, B., Huang, J., Guo, L., and Lan, S. 2024. Establishment of *Dendrobium wilsonii* Rolfe in vitro regeneration system. *Scientia Horticulturae* 324: art. 112598 (<https://doi.org/10.1016/j.scienta.2023.112598>).

Martha, K. M., Dewanti, P., Restanto, D. P., Ratnasari, T., and Alfian, F. N. 2023. In vitro mutagenesis of *Dendrobium* Gabriella Suryajaya using ethyl methane sulfonate (EMS) and plantlet regeneration. *Biosaintifika* 15(1): 87–96 (<https://doi.org/10.15294/biosaintifika.v15i1.40997>).

Maulida, D., Yusnita, Y., Hapsoro, D., Agustiansyah, A., and Karyanto, A. 2023. Interspecific hybridization of *Dendrobium mirbelianum* x *D. nindii* or *D. discolor*, in vitro seed germination, seedling growth and plantlet acclimatization. *Biodiversitas* 24(5): 3004–3011 (<https://doi.org/10.13057/biodiv/d240555>).

Misirova, S. 2023. Technology of growing orchid flowers from seeds. *E3S Web of Conferences* 390: art. 07030 (<https://doi.org/10.1051/e3sconf/202339007030>).

Mônico Ramos, J. C., Ribeiro, L. M., Nunes, G. P., Soares, J. S., and Sorgato, J. C. 2023. In vitro and ex vitro production of *Schomburgkia crispa*: effect of flask sealing systems and different light sources. *Rodriguesia* 74: art. e0106202 (<https://doi.org/10.1590/2175-7860202374041>).

Naderi Boldaji, H., Dianati Daylami, S., and Vahdati, K. 2023. Use of light spectra for efficient production of PLBs in temperate terrestrial orchids. *Horticulturae* 9(9): art. 1007 (<https://doi.org/10.3390/horticulturae9091007>).

Nelson, H. V., Gansau, J. A., Mus, A. A., Mohammad, N. N., Shamsudin, N. A., Amin, J., and Rusdi, N. A. 2023. Developing *Paraphalaenopsis labukensis* (Shim, A. Lamb & C.L. Chan), an orchid endemic to Sabah, Borneo, asymptomatic seed germination and in vitro seedling development. *Horticulturae* 9(6): art. 681 (<https://doi.org/10.3390/horticulturae9060681>).

Nhut, D. T., Luan, V. Q., and Tung, H. T. 2022. Wounding manipulation and shoot tip removal methods in the micropropagation of *Paphiopedilum callosum*. In: Nhut, D. T., Tung, H. T., Yeung, E. C.-T. (eds.), *Plant Tissue Culture: New Techniques and Application in Horticultural Species of Tropical Region*, pp. 91–103. Springer, Singapore. (https://doi.org/10.1007/978-981-16-6498-4_6).

Nhut, D. T., Tam, D. T. T., Luan, V. Q., Hien, N. T. T., and Tung, H. T. 2022. A protocol of shoot regeneration and polyploid plantlet production in *Paphiopedilum villosum*. In: Nhut, D. T., Tung, H. T., Yeung, E. C.-T. (eds.), *Plant Tissue Culture: New Techniques and Application in Horticultural Species of Tropical Region*, pp. 327–342. Springer, Singapore. (https://doi.org/10.1007/978-981-16-6498-4_16).

Ona, A. F. and Shimasaki, K. 2023. Effect of citric acid on the organogenesis of *Cymbidium floribundum*. *Environmental Control in Biology* 61(4): 69–71 (<https://doi.org/10.2525/ecb.61.69>).

Parlak, S. and Erken, K. 2023. Effect of ultrasonic and vacuum treatments on the germination of *Himantoglossum robertianum* (Loiseleur) P. Delforgei[sic] (Orchidaceae) seeds under in vitro conditions. *Pakistan Journal of Botany* 55(5): 1729–1738 ([https://doi.org/10.30848/PJB2023-5\(31\)](https://doi.org/10.30848/PJB2023-5(31))).

Quijia-Lamiña, P. H., Baquero, L. E., Kane, M. E., and Zettler, L. W. 2023. Asymbiotic and symbiotic seed culture of *Polystachya concreta* (Jacq.) Garay & H.R. Sweet from Ecuador. *South African Journal of Botany* 159: 164–178 (<https://doi.org/10.1016/j.sajb.2023.05.046>).

Quijia-Lamiña, P. H., Baquero, L. E., Kane, M. E., and Zettler, L. W. 2023. In vitro seed germination and seedling development of *Dracula felix* (Luer) Luer—An orchid native to Ecuador. *Diversity* 15(6): art. 732 (<https://doi.org/10.3390/d15060732>).

Ramos, J. C. M., Ribeiro, L. M., Pereira Nunes, G., Schultz Soares, J., and Sorgato, J. C. 2023. In vitro and ex vitro production of *Schomburgkia crispa*: effect of flask sealing systems and different light sources. *Rodriguésia* 74: art. e01062022 (<https://doi.org/10.1590/2175-7860202374041>).

Ren, Y., Gao, J. R., Cai, S. M., Yan, H. M., and Huang, H. Y. 2023. In vitro propagation of *Liparis nervosa* (Thunb.) Lindl., an endangered medicinal orchid. *Acta Scientiarum Polonorum, Hortorum Cultus* 22(5): 73–87 (<https://doi.org/10.24326/asphc.2023.5023>).

Suresh, L., Reveendran, R., and Decruse, S. W. 2023. In vitro symbiotic seed germination in *Vanda wightii*, an endemic orchid species of Western Ghats, India supported by Ceratobasidiaceae isolates. *Plant Science Today* 10(3): 375–384 (<https://doi.org/10.14719/pst.2367>).

Yuan, C., Zhang, X., Wang, J., Zhao, M., and Xu, D. 2023. Pinch point extraction method for *Phalaenopsis* tissue-cultured seedlings based on salient features. *Nongye Gongcheng Xuebao/Transactions of the Chinese Society of Agricultural Engineering* 39(13): 151–159 (<https://doi.org/10.11975/j.issn.1002-6819.202304132>).

Molecular biology

Chen, J., Wang, F., Zhou, C., Ahmad, S., Zhou, Y., Li, M., Liu, Z., and Peng, D. 2023. Comparative phylogenetic analysis for *Aerides* (Aeridinae, Orchidaceae) based on six complete plastid genomes. *International Journal of Molecular Sciences* 24(15): art. 12473 (<https://doi.org/10.3390/ijms241512473>).

Chen, K., Wang, H., Chen, Y. T., Fu, K., Han, Z. G., Li, C., Si, J. P., and Chen, D. H. 2023. Functional analysis of WOX family genes in *Dendrobium catenatum* during growth and development. *Yi chuan (Hereditas)* 45(8): 700–714 (<https://doi.org/10.16288/j.yczz.22-392>).

Chueakhunthod, W., Khairum, A., Jaukwon, P., Chantakot, T., Woramit, T., Hualsawat, S., and Tantasawat, P. A. 2023. Sequence-related amplified polymorphism and target region amplification polymorphism markersbased[sic] profiling of sodium azide and ethyl methanesulfonate-derived black rot-resistant *Dendrobium* sp. ‘Earsakul’ mutants from in vitro mutagenesis and selection. *HortScience* 58(12): 1465–1473 (<https://doi.org/10.21273/HORTSCI17350-23>).

Devi, K. S., Sanabam, R., Singh, N. S., Devi, E. J., and Devi, H. S. 2023. Intergeneric hybridization of two endangered orchids, *Vanda stangeana* and *Phalaenopsis hygrophila* and molecular confirmation of hybridity using SSR and SCoT markers. *South African Journal of Botany* 161: 140–150 (<https://doi.org/10.1016/j.sajb.2023.07.048>).

Farminhão, J., Biteau, J. P., Yakhoubia, D., Savignac, M., Simo-Droissart, M., Droissart, V., Sonké, B., and Stévant, T. 2023. A single origin of leaflessness in Afro-Malagasy angraecoids (Orchidaceae, Angraecinae). *Taxon* 72(3): 486–500 (<https://doi.org/10.1002/tax.12932>).

Fiorini, C. F., de Camargo Smidt, E., Knowles, L. L., and Leite Borba, E. 2023. Hybridization boosters[sic] diversification in a Neotropical *Bulbophyllum* (Orchidaceae) group. *Molecular Phylogenetics and Evolution* 186: art. 107858 (<https://doi.org/10.1016/j.ympev.2023.107858>).

Han, Z., Xu, Z., Xu, Y., Lin, J., Chen, X., Wang, Y., Yu, Q., Li, C., Chen, D., Hu, H., and Si, J. 2024. Phylogenomics reveal DcTPS-mediated terpenoid accumulation and environmental response in *Dendrobium catenatum*. *Industrial Crops and Products* 208: art. 117799 (<https://doi.org/10.1016/j.indcrop.2023.117799>).

Hartati, S. and Cahyono, O. 2023. Genetic similarity among *Dendrobium* species from Indonesia using RAPD markers. *Biodiversitas* 24(9): 5015–5021 (<https://doi.org/10.13057/biodiv/d240945>).

Homhuan, S., Saijuntha, W., and Thanonkeo, S. 2023. Genetic variation of wild *Bulbophyllum reclusum* Seidenf. in Northeast Thailand based on chloroplast matK sequence analysis. *Asia-Pacific Journal of Science and Technology* 28(4): art. Apst-28-04-10.

Huang, L., Lu, Z., Wang, J., Zhang, H., and Jiang, M. 2023. Complete chloroplast genome of a traditional medicinal plant *Luisia hancockii* Rolfe 1896: genomic features and phylogenetic relationship within subtribe Aeridinae (Orchidaceae). *Mitochondrial DNA Part B: Resources* 8(11): 1149–1153 (<https://doi.org/10.1080/23802359.2023.2275334>).

Huang, Y., Zhao, X., Zheng, Q., He, X., Zhang, M. M., Ke, S., Li, Y., Zhang, C., Ahmad, S., Lan, S., and Liu, Z. J. 2023. Genome-wide identification of TCP gene family in *Dendrobium* and their expression patterns in *Dendrobium chrysotoxum*. *International Journal of Molecular Sciences* 24(18): art. 14320 (<https://doi.org/10.3390/ijms241814320>).

Jiang, L., Ren, Y., Jiang, Y., Hu, S., Wu, J., and Wang, G. 2023. Characterization of NF–Y gene family and their expression and interaction analysis in *Phalaenopsis* orchid. *Plant Physiology and Biochemistry* 204: art. 108143 (<https://doi.org/10.1016/j.plaphy.2023.108143>).

Kate-Ngam, S., Jantasuriyarat, C., Lakote, P., Promchot, T., and Chueakaew, C. 2023. Revealing genetic diversity of wild *Phalaenopsis* orchids in Thailand through Random Amplified Polymorphic DNA markers. *Biodiversitas* 24(10): 5409–5417 (<https://doi.org/10.13057/biodiv/d241023>).

Kim, Y. K., Jo, S., Cheon, S. H., Hong, J. R., and Kim, K. J. 2023. Ancient horizontal gene transfers from plastome to mitogenome of a nonphotosynthetic orchid, *Gastrodia pubilabiata* (Epidendroideae, Orchidaceae). *International Journal of Molecular Sciences* 24(14): art. 11448 (<https://doi.org/10.3390/ijms241411448>).

Kitidee, N., Potapohn, N., and Bundithya, W. 2023. Amplified fragment length polymorphism for identification of *Habenaria* and *Pecteilis*. *Asia-Pacific Journal of Science and Technology* 28(5): art. Apst-28-05-02.

Li, G., Cheng, L., Li, Z., Zhao, Y., and Wang, Y. 2023. Over-expression of CcMYB24, encoding a R2R3-MYB transcription factor from a high-leaf-number mutant of *Cymbidium*, increases the number of leaves in *Arabidopsis*. *PeerJ* 11: art. e15490 (<https://doi.org/10.7717/peerj.15490>).

Li, J., Wang, L., Chen, X., Zeng, L., Su, Y., and Liu, Z. 2023. Characterization of two AGAMOUS-like genes and their promoters from the *Cymbidium faberi* (Orchidaceae). *Plants* 12(14): art. 2740 (<https://doi.org/10.3390/plants12142740>).

Li, Y., Li, L., Yang, J., Niu, Z., Liu, W., Lin, Y., Xue, Q., and Ding, X. 2023. Genome-wide identification and analysis of TCP gene family among three *Dendrobium* species. *Plants* 12(18): art. 3201 (<https://doi.org/10.3390/plants12183201>).

Li, Y., Zhao, X., Zhang, M. M., He, X., Huang, Y., Ahmad, S., Liu, Z. J., and Lan, S. 2023. Genome-based identification of the CYP75 gene family in Orchidaceae and its expression patterns in *Cymbidium goeringii*. *Frontiers in Plant Science* 14: art. 1243828 (<https://doi.org/10.3389/fpls.2023.1243828>).

Lou, Y., Zhang, Q., Xu, Q., Yu, X., Wang, W., Gai, R., and Ming, F. 2023. PhCHS5 and PhF3'5'H genes over-expression in *Petunia* (*Petunia hybrida*) and *Phalaenopsis* (*Phalaenopsis aphrodite*) regulate flower color and branch number. *Plants* 12(11): art. 2204 (<https://doi.org/10.3390/plants12112204>).

Nam, D. E., Cha, M. J., Kim, Y. D., Awasthi, M., Do, Y., Kong, S. G., and Chung, K. W. 2023. Microsatellite dataset for cultivar discrimination in Spring Orchid (*Cymbidium goeringii*). *Genes* 14(8): art. 1610 (<https://doi.org/10.3390/genes14081610>).

Ning, H. J., Gui, F. F., Tian, E. W., and Yang, L. Y. 2023. The novel developed microsatellite markers revealed potential hybridization among *Cymbidium* species and the interspecies subdivision of *C. goeringii* and *C. ensifolium*. *BMC Plant Biology* 23(1): art. 492 (<https://doi.org/10.1186/s12870-023-04499-y>).

Phillips, C., Pérez-Escobar, O. A., and Dodsworth, S. 2023. Digest: Multiple factors influence mountain orchid diversity and distribution. *Evolution; international journal of organic evolution* 77(7): 1730–1731 (<https://doi.org/10.1093/evolut/qpad084>).

Purwantoro, A., Setiawan, A. B., Nugraha, R. S., Mujtaba, S. B., and Setyadi, A. H. 2023. Genetic variation and genomic constitution in orchid *Dendrobium* hybrid section *Spatulata* derived from interspecific hybridization based on sequence related amplified polymorphism marker. *Indonesian Journal of Biotechnology* 28(2): 119–126 (<https://doi.org/10.22146/ijbiotech.83595>).

Qiu, Y., Cai, C., Mo, X., Zhao, X., Wu, L., Liu, F., Li, R., Liu, C., Chen, J., and Tian, M. 2023. Transcriptome and metabolome analysis reveals the effect of flavonoids on flower color variation in *Dendrobium nobile* Lindl. *Frontiers in Plant Science* 14: art. 1220507 (<https://doi.org/10.3389/fpls.2023.1220507>).

Rodriguez, E. M. F., Racelis, M. S. O., Calonzo, A. A. D., Clemente, R. F., Alajjos, O. R., and Ong, C. J. N. 2023. In silico analysis of potential loci for the identification of *Vanda* spp. in the Philippines. *Plant and Fungal Systematics* 68(1): 223–231 (<https://doi.org/10.35535/pfsyst-2023-0003>).

Shao-Wei, X., Xu-Yong, G., Meng-Yao, Z., Cheng-Yuan, Z., Zhong-Jian, L., and Ming-He, L. 2023. Phylogenetics of two rhizomatous epiphytic species of *Cymbidium* (Orchidaceae; Cymbidieae): Evidence from analyses of nuclear and plastid DNA. *Phytotaxa* 598(1): 97–104 (<https://doi.org/10.11646/PHYTOTAXA.598.1.8>).

Sundari, D., Perdana, N. G. A., Mose, W., Gutierrez-Marcos, J., and Semiarti, E. 2023. Detection of AtRKD4 gene and induction of somatic embryo in transformant of *Phalaenopsis amabilis* carrying 35S::GR::AtRKD4. *Journal of Tropical Biodiversity and Biotechnology* 8(2): art. jtbb71211 (<https://doi.org/10.22146/jtbb.71211>).

Wang, M., Yu, W., Yang, J., Hou, Z., Li, C., Niu, Z., Zhang, B., Xue, Q., Liu, W., and Ding, X. 2023. Mitochondrial genome comparison and phylogenetic analysis of *Dendrobium* (Orchidaceae) based on whole mitogenomes. *BMC Plant Biology* 23(1): art. 586 (<https://doi.org/10.1186/s12870-023-04618-9>).

Wang, M. Y., Ding, Y., Zhang, Y., Sun, L., Song, X. Q., Hao, D. C., Li, W. S., Tang, M. Q., Ling, P., and Xie, S. Q. 2023. Transcriptome analysis of genes involved in flower and leaf color of *Oncidium* by RNA-seq. *Acta Scientiarum Polonorum, Hortorum Cultus* 22(5): 3–18 (<https://doi.org/10.24326/asphc.2023.4831>).

Wang, Y., Liu, L., Ou, Q., You, H., Wang, J., and Niu, J. 2023. Alternative first exons drive enzymatic activity variation in chalcone synthase 3 of *Dendrobium sinense*. *Forests* 14(9): art. 1702 (<https://doi.org/10.3390/f14091702>).

Yang, Y., Tang, J., Zou, R., Luo, Y., Deng, Z., Li, D., Chai, S., and Wei, X. 2023. The genetic diversity and genetic structure of the germplasm resources of the medicinal orchid plant *Habenaria dentata*. *Genes* 14(9): art. 1749 (<https://doi.org/10.3390/genes14091749>).

Zhang, G., Hu, Y., Huang, M. Z., Huang, W. C., Liu, D. K., Zhang, D., Hu, H., Downing, J. L., Liu, Z. J., and Ma, H. 2023. Comprehensive phylogenetic analyses of Orchidaceae using nuclear genes and evolutionary insights into epiphytism. *Journal of Integrative Plant Biology* 65: 1204–1225 (<https://doi.org/10.1111/jipb.13462>).

Zhang, Y., Zhang, W., Manzoor, M. A., Sabir, I. A., Zhang, P., Cao, Y., and Song, C. 2023. Differential involvement of WRKY genes in abiotic stress tolerance of *Dendrobium huoshanense*. *Industrial Crops and Products* 204: art. 117295 (<https://doi.org/10.1016/j.indcrop.2023.117295>).

Zhao, X., Li, Y., Zhang, M. M., He, X., Ahmad, S., Lan, S., and Liu, Z. J. 2023. Research advances on the gene regulation of floral development and color in orchids. *Gene* 888: art. 147751 (<https://doi.org/10.1016/j.gene.2023.147751>).

Zhao, X., Zhang, M., He, X., Zheng, Q., Huang, Y., Li, Y., Ahmad, S., Liu, D., Lan, S., and Liu, Z. 2023. Genome-wide identification and expression analysis of the SPL gene family in three orchids. *International Journal of Molecular Sciences* 24(12): art. 10039 (<https://doi.org/10.3390/ijms241210039>) [*Cymbidium goeringii*, *Dendrobium chrysotoxum*, *Gastrodia elata*].

Zheng, Q., Zhao, X., Huang, Y., Zhang, M. M., He, X., Ke, S., Li, Y., Zhang, C., Ahmad, S., Lan, S., Li, M., and Liu, Z. J. 2023. Genome-wide identification of the YABBY gene family in *Dendrobium* orchids and its expression patterns in *Dendrobium chrysotoxum*. *International Journal of Molecular Sciences* 24(12): art. 10165 (<https://doi.org/10.3390/ijms241210165>).

Zhou, C. Y., Zeng, M. Y., Gao, X., Zhao, Z., Li, R., Wu, Y., Liu, Z. J., Zhang, D., and Li, M. H. 2023. Characteristics and comparative analysis of seven complete plastomes of *Trichoglottis* s.l. (Aeridinae, Orchidaceae). *International Journal of Molecular Sciences* 24(19): art. 14544 (<https://doi.org/10.3390/ijms241914544>).

Zhou, R., Liu, J., and Yang, F. 2023. Analysis on cloning and expression of CsAP1-A gene in *Cymbidium sinense*. *Guangdong Agricultural Sciences* 50(9): 99–107 (<https://doi.org/10.16768/j.issn.1004-874X.2023.09.010>).

Mycorrhiza and endophytes

Alderton-Moss, J., Munkacsi, A. B., van der Walt, K., and Lehnebach, C. A. 2023. Identification of fungal associates of the swamp helmet orchid (*Corybas carsei*), a threatened (nationally critical) species. *New Zealand Journal of Botany*: (<https://doi.org/10.1080/0028825X.2023.2228250>).

Cao, D. 2023. “Smother love” of mycorrhiza: hypoxic germination of orchids. *Plant physiology* 192(3): 2240–2242 (<https://doi.org/10.1093/plphys/kiad232>).

Dove, A., Charters, M. D., Campbell, M. J., Blake, H., Menon, M., and Sarasan, V. 2023. Fungal community composition at the last remaining wild site of yellow early marsh orchid (*Dactylorhiza incarnata* ssp. *ochroleuca*). *Microorganisms* 11(8): art. 2124 (<https://doi.org/10.3390/microorganisms11082124>).

Eo, J. K., Choi, J., Lee, S. W., and Kim, N. Y. 2022. *Podospora leporina* (Podosporaceae): An unrecorded endophytic fungus isolated from *Cypripedium guttatum*. *Korean Journal of Mycology* 50(4): 361–365 (<https://doi.org/10.4489/KJM.20220039>).

Kuzminova, L. S., Salnikova, M. M., and Vinogradova, T. N. 2023. Remarks on the spatial distribution of mycorrhiza in the roots of *Epipactis papillosa* (Orchidaceae). *Botanica Pacifica* 12(2): 59–63 (<https://doi.org/10.17581/bp.2023.12s07>).

Lv, R., Zhang, J., Liao, H., Yong, J. W. H., and Song, J. 2023. Study on the soil microbial diversity of *Cymbidium goeringii* and *Cymbidium faberi* in the Qinling Mountains after introduction and domestication. *Diversity* 15(9): art. 951 (<https://doi.org/10.3390/d15090951>).

Moliszewska, E., Hendel, P., and Nabrdalik, M. 2023. *Rhizoctonia* spp. as beneficial and mycorrhizal fungi. In: Sharma, V., Salwan, R., Moliszewska, E., Ruano-Rosa, D., and Jędryczka, M. (eds.), *The Chemical Dialogue Between Plants and Beneficial Microorganisms*, pp. 213–220. Elsevier. (<https://doi.org/10.1016/B978-0-323-91734-6.00004-1>).

Pangastuti, A., Pitoyo, A., Susilowati, A., Meisari, R., Yuliana, I., Aulia, K., Puspitasari, L. P., Rusiani, and Prasojo, H. 2023. Diversity of root bacterial community associated with seven orchid species from Mount Merbabu National Park, Central Java, Indonesia. *Biodiversitas* 24(10): 5676–5684 (<https://doi.org/10.13057/biodiv/d241050>).

Salwan, R., Sharma, A., Kaur, R., Sharma, R., and Sharma, V. 2023. Signaling in mycorrhizal symbioses. In: Sharma, V., Salwan, R., Moliszewska, E., Ruano-Rosa, D., and Jędryczka, M. (eds.), *The Chemical Dialogue Between Plants and Beneficial Microorganisms*, pp. 117–126. Elsevier. (<https://doi.org/10.1016/B978-0-323-91734-6.00020-X>).

Sukarno, N., Mursidawati, S., Listiyowati, S., Nugraha, N. H., Fadillah, W. N., and Waite, M. 2023. Root associated *Fusarium solani* Species Complex (FSSC) in epiphytic and terrestrial orchids. *Biodiversitas* 24(5): 2577–2586 (<https://doi.org/10.13057/biodiv/d240509>).

Valencia-D., J., Neubig, K. M., and Clark, D. P. 2023. The origin and fate of fungal mitochondrial horizontal gene transferred sequences in orchids (Orchidaceae). *Botanical Journal of the Linnean Society* 203(2): 162–179 (<https://doi.org/10.1093/botlinnean/boad019>).

Weerasuriya, N. M., Kukolj, K., Spencer, R., Sveshnikov, D., and Thorn, R. G. 2022. Multiple fungi may connect the roots of an orchid (*Cypripedium reginae*) and Ash (*Fraxinus nigra*) in western Newfoundland. *Frontiers in Fungal Biology* 3: art. 805127 (<https://doi.org/10.3389/ffunb.2022.805127>).

Yao, N., Zheng, B., Wang, T., and Cao, X. 2023. Isolation of *Tulasnella* spp. from cultivated *Paphiopedilum* orchids and screening of germination-enhancing fungi. *Journal of Fungi* 9(6): art. 597 (<https://doi.org/10.3390/jof9060597>).

Pathology

Alam, S. H., Mahapatra, S., Chakraborty, S., Hooi, A., Bhushan, B. T., and Samanta, M. 2023. First report of *Curvularia geniculata* causing leaf spot in orchid in India. *Indian Phytopathology*: (<https://doi.org/10.1007/s42360-023-00650-9>).

Chooklin, C. S., Rattanapan, N., Saimmai, A., Riansa-Ngawong, W., and Maneerat, S. 2023. Screening of biosurfactant-producing bacteria as a potential biological control agent for fungal orchid pathogens in Thailand. *Science and Technology Asia* 28(3): 292–312.

Hernández-Ramírez, F., Damon, A., Fernández Pavía, S. P., Guillén-Navarro, K., Iracheta-Donjuan, L., Zarza, E., and Castro-Chan, R. A. 2023. Community richness and diversity of endophytic fungi associated with the orchid *Guarianthe skinneri* infested with “black blotch” in the Soconusco Region, Chiapas, Mexico. *Diversity* 15(7): art. 807 (<https://doi.org/10.3390/d15070807>).

Manrique-Barros, S., Flanagan, N. S., Ramírez-Bejarano, E., and Mosquera-Espinosa, A. T. 2023. Evaluation of *Tulasnella* and *Ceratobasidium* as biocontrol agents of *Fusarium* wilt on *Vanilla planifolia*. *Agronomy* 13(9): art. 2425 (<https://doi.org/10.3390/agronomy13092425>).

Mursyidin, D. H. and Saputra, A. W. 2023. Phylogenetic relationship of Cymbidium Mosaic Virus from the native orchids of South Kalimantan, Indonesia. *Biosaintifika* 15(2): 185–193 (<https://doi.org/10.15294/biosaintifika.v15i2.41842>).

Pant, R. P., Pun, K. B., Meena, N. K., and Kaur, B. 2023. Orchids. In: Awasthi, L. P. (ed.), *Viral Diseases of Field and Horticultural Crops*, pp. 843–849. Elsevier. (<https://doi.org/10.1016/B978-0-323-90899-3.00049-5>).

Tolangara, A., Ahmad, H., Rasyid, R., and Ahmad, Z. 2023. Variation of resistance and physiological response of orchid from induction *Trichoderma* to infection Odontoglossum ringspot virus (ORSV). *Asian Journal of Plant Sciences* 22(3): 496–505 (<https://doi.org/10.3923/ajps.2023.496.505>).

Wu, Y. J., Chen, S. Y., Hsu, F. C., Wu, W. L., Hsieh, T. F., Su, J. F., Lai, Y. H., Lai, P. C., Chen, W. H., and Chen, H. H. 2023. PeCIN8 expression correlates with flower size and resistance to yellow leaf disease in *Phalaenopsis* orchids. *BMC Plant Biology* 23(1): art. 545 (<https://doi.org/10.1186/s12870-023-04567-3>).

Zhang, M., Li, L., and Tang, M. 2023. Morphological characteristics and occurrence of an important stem-boring pest, *Nassophasis* sp. (Coleoptera: Rhynchophorinae). *Horticulturae* 9(10): art. 1089 (<https://doi.org/10.3390/horticulturae9101089>) [*Dendrobium*].

Physiology/Phytochemistry

Ahmad, S., Wang, F., Ahmad, A., Ercisli, S., Chen, J., Guan, Y., Zhao, K., Zhou, Y., Lan, S., Liu, Z., and Peng, D. 2023. Suggesting a prospect for melatonin-mediated orchid flowering under extreme conditions. *Scientia Horticulturae* 321: art. 112340 (<https://doi.org/10.1016/j.scienta.2023.112340>).

Li, J. W., Zhou, Y., Zhang, Z. B., Cui, X. Q., Li, H. Y., Ou, M. J., Cao, K. F., and Zhang, S. B. 2023. Complementary water and nutrient utilization of perianth structural units help maintain long floral lifespan in *Dendrobium*. *Journal of Experimental Botany* 74(3): 1123–1139 (<https://doi.org/10.1093/jxb/erac479>).

Magar, Y. G., Noguchi, A., Furufuji, S., and Amaki, W. 2023. Effects of far-red light irradiation and its timing on the flowering in *Phalaenopsis amabilis*. *Acta Horticulturae* 1377: 405–410 (<https://doi.org/10.17660/ACTAHORTIC.2023.1377.49>).

Xu, Z. X., Zhu, X. M., Yin, H., Li, B., Chen, X. J., Fan, X. L., Li, N. Q., Selosse, M. A., Gao, J. Y., and Han, J. J. 2023. Symbiosis between *Dendrobium catenatum* protocorms and *Serendipita indica* involves the plant hypoxia response pathway. *Plant physiology* 192(3): 2554–2568 (<https://doi.org/10.1093/plphys/kiad198>).

Zeng, X., Li, J., Chen, T., Li, Y., and Guo, S. 2023. Global metabolic profile and multiple phytometabolites in the different varieties of *Gastrodia elata* Blume. *Frontiers in Plant Science* 14: art. 1249456 (<https://doi.org/10.3389/fpls.2023.1249456>).

Zhang, F. P. and Zhang, S. B. 2023. Floral longevity is related to flower nutrient stoichiometry in endangered orchids, *Paphiopedilum* species. *Global Ecology and Conservation* 47: art. e02663 (<https://doi.org/10.1016/j.gecco.2023.e02663>).

Pollination/Population genetics/Seed dispersal

Ackerman, J. D., Phillips, R. D., Tremblay, R. L., Karremans, A., Reiter, N., Peter, C. I., Bogarín, D., Pérez-Escobar, O. A., and Liu, H. 2023. Beyond the various contrivances by which orchids are pollinated: global patterns in orchid pollination biology. *Botanical Journal of the Linnean Society* 202(3): 295–324 (<https://doi.org/10.1093/botlinnean/boac082>).

Capó, M., Borràs, J., Perelló-Suau, S., Rita, J., and Cursach, J. 2023. Phenotype–fitness relationships and pollen-transfer efficiency of five orchid species with different pollination strategies. *American Journal of Botany* 110(6): art. e16198 (<https://doi.org/10.1002/ajb2.16198>) [*Anacamptis*, *Ophrys*, *Serapias*].

Détrez, É. 2021. Deux observations de pollinisateurs: *Andrena scotia* sur *Cypripedium calceolus* dans l'Isère et une andrène sur *Ophrys delforgei* dans les Bouches-du-Rhône. *Bulletin de la Société Française d'Orchidophilie Rhône-Alpes* 44: 55–59.

Gnatiuk, A. M., Gaponenko, M. B., Honchar, H. Y., and Gaponenko, A. M. 2023. Diversity of *Epipactis palustris* (L.) Crantz (Orchidaceae) pollinators and visitors in conditions of Kyiv city (Ukraine). *Hacquetia* 22(2): 247–262 (<https://doi.org/10.2478/hacq-2022-0018>).

Lanzino, M., Palermo, A. M., and Pellegrino, G. 2023. Pollination mechanism in *Serapias* with no pollinaria reconfiguration. *AoB PLANTS* 15(5): art. plad054 (<https://doi.org/10.1093/aobpla/plad054>).

Sazima, M. and Sazima, I. 2023. Slender Onion Orchid pollinated by insects in suburban Sydney. *Victorian Naturalist* 140(5): 136–139 [*Microtis parviflora*].

Téllez-Baños, B. E., Gomez-Escamilla, I. N., Navarrete-Jiménez, A., Espejo-Serna, A., and López-Ferrari, A. R. 2023. Floral visitors of three species of *Corallorhiza* in Monte Tlálloc, Texcoco, Estado de México, Mexico. *Lankesteriana* 23(3): 457–468 (<https://doi.org/10.15517/lank.v23i3.57671>).

Zhang, H. P., Wen, S. J., Wang, H., and Ren, Z. X. 2023. Floral nectar reabsorption and a sugar concentration gradient in two long-spurred *Habenaria* species (Orchidaceae). *BMC Plant Biology* 23(1): art. 331 (<https://doi.org/10.1186/s12870-023-04344-2>).

Systematics and distribution

AFRICA (excluding NORTH AFRICA, including the southern part of the ARABIAN PENINSULA)

Bytebier, B. 2023. *Eulophia edwardii* (Orchidaceae), a new species from the Pondoland Centre of Endemism in South Africa. *Plant Ecology and Evolution* 156(3): 326–332 (<https://doi.org/10.5091/plecevo.105931>).

Cribb, P. J. and Hemp, A. 2023. A new endemic species of *Polystachya* (Polystachyinae) from eastern Tanzania. *Lankesteriana* 23(3): 585–591 (<https://doi.org/10.15517/lank.v23i3.58060>).

Droissart, V., Verlynde, S., Ramandimbisoa, B., Andriamahefarivo, L., and Stévant, T. 2023. Diversity and distribution of Orchidaceae in one of the world's most threatened plant hotspots (Madagascar). *Biodiversity Data Journal* 11: art. e106223 (<https://doi.org/10.3897/BDJ.11.E106223>).

Farminhão, J. and Cribb, P. J. 2023. A new *Ypsilopus* (Orchidaceae, Angraecinae) from Zimbabwe and notes on the parallel evolution of extreme column exsertion in African angraecoids. *Plant Ecology and Evolution* 156(3): 374–382 (<https://doi.org/10.5091/plecevo.107313>).

Fibeck, W. and Phiri, V. 2023. *Habenaria rautaneniana* Kränzl. Porträt einer hygrophilen Dambo-Orchidee. *Die Orchidee* 74(3): 194–201.

Pailler, T., Robert, C.-H., Flores, O., Bytebier, B., and Baider, C. 2023. *Cynorkis adeleana*, a new species of Orchidaceae (Orchidoideae; Habenariinae) endemic to Réunion. *Phytotaxa* 629(2): 181–186 (<https://doi.org/10.11646/phytotaxa.629.2.8>).

AMERICA

Arias, T., Chaux-Varela, J., Camero, M. D. P., Calderon-Álvarez, R. A., Trujillo, A. C., Correa-Munera, M. A., Zuluaga, A., Perdomo, O., Pérez-Escobar, O. A., Trujillo-Trujillo, E., and Valencia-D., J. 2023. Checklist of Orchidaceae from Caquetá, Colombia. *PhytoKeys* 229: 21–46 (<https://doi.org/10.3897/phytokeys.229.102737>).

Arista, J. P., Hágsater, E., Santiago, E., Pariente, E., Oliva, M., and Salazar, G. A. 2023. *Epidendrum edquenii* (Laeliinae), a new species from a montane wet forest of the private conservation area La Pampa del Burro, Amazonas, Peru. *Lankesteriana* 23(2): 409–417 (<https://doi.org/10.15517/lank.v23i2.56342>).

Batista, J. A. N., González, A., and Cruz-Lustre, G. 2023. A new overlooked species and a new record of *Cyrtopodium* (Cymbidieae, Orchidaceae) from Uruguay. *Phytotaxa* 613(2): 127–139 (<https://doi.org/10.11646/phytotaxa.613.2.2>).

Bogarín, D., Ossenbach, C., Belfort-Oconitrillo, N., and Pupulin, F. 2023. Orchidaceae acostanae: typification of Costa Rican orchid species described by Rudolf Schlechter from collections by Guillermo Acosta. *Botany Letters* 170(4): 612–633 (<https://doi.org/10.1080/23818107.2023.2225105>).

Calderón, R. A. and Bonilla Morales, M. M. 2023. A new species of *Catasetum* (Cymbidieae: Catasetinae) from the Colombian Amazonia. *Lankesteriana* 23(3): 469–475 (<https://doi.org/10.15517/lank.v23i3.54462>).

Carvalho, D. N., Meneguzzo, T. E. C., and Van den Berg, C. 2023. *Vanilla calamitosa* (Orchidaceae), a new aphyllous species from eastern Brazil. *Kew Bulletin* 78(3): 309–317 (<https://doi.org/10.1007/s12225-023-10092-1>).

Cascales, J., Paris, C. I., and Gottlieb, A. M. 2023. The fragrant orchid *Vanilla chamissonis*: an appraisal of the genetic structure of wild populations from Osununú Natural Reserve, Misiones, Argentina. *Lankesteriana* 23(3): 433–456 (<https://doi.org/10.15517/lank.v23i3.56432>).

Chamaya Gonzáles, J. A., Hágsater, E., Santiago Ayala, E., Duarte Salinas, J., and Iberico Vela, G. 2023. Three new species of *Epidendrum* (Orchidaceae: Laeliinae) from the cloud forests of Chota, northern Peru. *Phytotaxa* 625(1): 77–87 (<https://doi.org/10.11646/phytotaxa.625.1.5>).

Collantes, B., Edquén, J. D., Incahuamán, F., and Salazar, G. A. 2023. *Sarcoglottis wernerherzogii* (Spiranthinae), a new species from Cusco, Peru. *Lankesteriana* 23(3): 623–632 (<https://doi.org/10.15517/lank.v23i3.58135>).

Cuadros-Rojas, R. D., Quispe-Melgar, H. R., Calderon-Quispe, F. H., and Singer, R. B. 2023. *Myoxanthus anancusiensis* (Orchidaceae: Pleurothallidinae), a new species from the inter-Andean valley of Huancavelica, Peru. *Phytotaxa* 622(2): 155–164 (<https://doi.org/10.11646/phytotaxa.622.2.5>).

Da Silva Luz, A. L., De Souza Costa, A. A., Moreira, C. R., and Barberena, F. F. V. A. 2023. Vascular epiphytes in the Amazon: main gaps, limitations and perspectives for studies on the subject. *Acta Botanica Brasilica* 37: art. e20220311 (<https://doi.org/10.1590/1677-941X-ABB-2022-0311>).

Damián-Parizaca, A. and Mitidieri-Rivera, N. 2023. *Vanilla cameroniana* (Orchidaceae, Vanilloideae), a new species from French Guiana and new records from the Guiana Shield. *Phytotaxa* 609(3): 622–632 (<https://doi.org/10.11646/phytotaxa.609.3.5>).

Dos Santos, T. F. and Da Luz Fernandes Menezes, E. 2023. *Octomeria giordanii* (Orchidaceae-Pleurothallidinae), a new species from Brazil and nomenclatural notes on João Barbosa Rodrigues's species that occurs in Bahia and Minas Gerais. *Phytotaxa* 620(3): 235–243 (<https://doi.org/10.11646/phytotaxa.620.3.4>).

Faria dos Santos, T., Coan, A. I., and De Camargo Smidt, E. 2023. Revision of *Liparis* (Orchidaceae, Epidendroideae, Malaxidinae) in Brazil. *Rodriguésia* 74: art. e00192023 (<https://doi.org/10.1590/2175-7860202374054>).

Hágsater, E. and Santiago, E. (eds.) 2023. The genus *Epidendrum* Part 15—Species new & old in *Epidendrum*. *Icones Orchidacearum* 19(3) (published on the internet: https://herbarioamo.org/index_archivos/Fascicle19_3.pdf).

Imig, D. C., Righetto Mauad, A. V. S., Da Silva-Pereira, V., Toscano de Brito, A. L. V., and De Camargo Smidt, E. 2023. Taxonomic update of *Dryadella* (Orchidaceae: Pleurothallidinae) based on morphometric analyses of three species of the Brazilian Atlantic rainforest. *Feddes Repertorium* 134(1): 66–79 (<https://doi.org/10.1002/fedr.202200038>).

Iturralde, G. A., Monteros, M. F., Jiménez, M. M., Martel, C., and Baquero, L. E. 2023. *Telipogon pillaropatensis* (Oncidiinae): a new species from the east-central Andes of Ecuador. *Lankesteriana* 23(3): 495–509 (<https://doi.org/10.15517/lank.v23i3.58100>).

Jiménez, M. M., Vélez-Abarca, L., Mashendo-Jimbicti, V., Garzón-Suárez, H. X., Monteros, M. F., and Wilson, M. 2023. Five new species of *Pleurothallis* (Orchidaceae: Pleurothallidinae) in subsection *Macrophyllae-Fasciculatae* from Southeastern Ecuador. *Phytotaxa* 607(3): 161–181 (<https://doi.org/10.11646/phytotaxa.607.3.1>).

Juárez, M. 2023. New records of *Sacoila lanceolata* (Orchidaceae, Spiranthinae) in central Argentina. *Lilloa* 60(1): 73–82 (<https://doi.org/10.30550/j.lil/2023.60.1/2023.04.14>).

Karremans, A. P., Chinchilla, I. F., and Rojas-Alvarado, G. 2023. Studies on Costa Rican Vanilloideae: the return of *Cleistes rosea* and a reaffirmation of *Epistephium ellipticum*. *Lankesteriana* 23(3): 613–622 (<https://doi.org/10.15517/lank.v23i3.58136>).

Karremans, A. P., Moreno, J. S., Gil-Amaya, K., Morales Gutiérrez, N., Espinosa, F., Mesa, S., Restrepo, E., Rincón-González, M., Serna, A., Sierra-Ariza, M., and Vieira-Urbe, S. 2023. Colombian Orchidaceae: a catalogue of the Pleurothallidinae. *Lankesteriana* 23(2): 181–400 (<https://doi.org/10.15517/lank.v23i2.56158>).

Karremans, A. P., Rojas-Alvarado, G., and Chinchilla, I. F. 2023. *Epidendrum scandens*: an unusual new orchid species endemic to the Cordillera de Talamanca in Costa Rica. *Phytotaxa* 626(4): 290–296 (<https://doi.org/10.11646/phytotaxa.626.4.6>).

Kolanowska, M. and Trejo, R. M. 2023. *Draconanthes kamentsa* (Orchidaceae, Pleurothallidinae), a new yellow-flowered species from Colombia. *Annales Botanici Fennici* 60: 99–104 (<https://doi.org/10.5735/085.060.0116>).

Kricsfalussy, V. and Kindrachuk, J. 2023. Orchids of the Redberry Lake Biosphere Region: diversity, distribution, habitats and conservation. *Blue Jay* 81(3): 11–21 [Canada].

León-Peralta, C. E., Salmerón-Barrera, E., and Pérez-García, E. A. 2023. *Encyclia* × *tixtlensis* (Orchidaceae: Laeliinae), a possible natural hybrid between *E. meliosma* and *E. atrorubens* in Guerrero, México. *Phytotaxa* 613(3): 249–260 (<https://doi.org/10.11646/phytotaxa.613.3.4>).

Monteros, M. F., Restrepo, E., Iturralde, G. A., Jiménez, M. M., and Baquero, L. E. 2023. Contributions to the *Lepanthes* (Orchidaceae) knowledge in Ecuador: A new species from Cordillera del Toisán and new records for the country. *Phytotaxa* 622(3): 204–214 (<https://doi.org/10.11646/phytotaxa.622.3.3>).

Morales, N. G., Toscano De Brito, A. L. V., and De Camargo Smidt, E. 2023. Novelties and nomenclatural notes in *Pabstiella* (Orchidaceae) from the Brazilian Atlantic Rainforest of Bahia and Espírito Santo. *Phytotaxa* 625(2): 161–179 (<https://doi.org/10.11646/phytotaxa.625.2.3>).

Moreno, J. S., Galindo-Tarazona, R., Alegria-Valencia, M., Sierra-Ariza, M. A., Mora-A., D. L., and Tróchez, A. Z. 2023. Blossoming legacies: Eight new *Lepanthes* (Orchidaceae: Pleurothallidinae) species from Los Farallones de Cali National Park named in honor of Colombian women. *Harvard Papers in Botany* 28(2): 663–693 (<https://doi.org/10.3100/hpib.v28iss2.2023.n4>).

Moreno, J. S., Galindo-Tarazona, R., Alegría-Valencia, M., Wilson, M., and Tróchez, A. Z. 2023. A new species of *Pleurothallis* (Pleurothallidinae) from the southwestern Andes of Colombia in the National Natural Park Farallones de Cali. *Lankesteriana* 23(2): 401–407 (<https://doi.org/10.15517/lank.v23i2.56290>).

Ocupa-Horna, L., Thoerle, L., Schuiteman, A., and Martel, C. 2023. A revised checklist of *Lepanthes* (Orchidaceae) from Peru, including new country records. *Brittonia* 75(2): 159–179 (<https://doi.org/10.1007/s12228-022-09737-5>).

Ocupa-Horna, L., Wilson, M., and Jiménez, M. M. 2023. A new species of *Pleurothallis* (Orchidaceae: Pleurothallidinae) in subsection *Macrophyllae-Fasciculatae* found in Carpish Montane Forest Regional Conservation Area, Peru. *Phytotaxa* 629(2): 163–175 (<https://doi.org/10.11646/phytotaxa.629.2.6>).

Ormerod, P. 2023. An update on *Xylobium* (Orchidaceae: Maxillareae). *Harvard Papers in Botany* 28(2): 711–714 (<https://doi.org/10.3100/hpib.v28iss2.2023.n7>).

Pansarin, E. R. and Menezes, E. D. L. F. 2023. A new remarkable *Vanilla* Mill. (Orchidaceae) species endemic to the Espinhaço Range, Brazil: its phylogenetic position and evolutionary relationships among Neotropical congeners. *PhytoKeys* 227: 151–165 (<https://doi.org/10.3897/PHYTOKEYS.227.101963>).

Parra-Sánchez, E., Restrepo, E., Alegría-Valencia, M., Moreno, J. S., and Galindo-Tarazona, R. 2023. *Lepanthes cordillerana* (Orchidaceae) a new species and the landscape threats to its wild populations. *Phytotaxa* 603(1): 69–80 (<https://doi.org/10.11646/phytotaxa.603.1.5>).

Parra-Sánchez, E., Vieira-Urbe, S., and Moreno, J. S. 2023. A new species of *Lepanthes* (Pleurothallidinae) in honour of “Bachué”, the mythological mother of the indigenous Muisca people. *Lankesteriana* 23(2): 127–137 (<https://doi.org/10.15517/lank.v23i2.54032>).

Passos Krah, D. R., Chiron, G., Da Silva, J. B. F., Krah, A. H., and De Castro Cantuária, P. 2023. *Catasetum dianneae* (Orchidaceae, Catasetinae): a new species of the *C. barbatum* complex for the Brazilian Amazon. *Richardiana*, nouv. Sér. 7: 187–201 (<https://www.richardiana.jardinbotaniquedeguyane.com/wp-content/uploads/2023/09/Catasetum-dianneae-pdf>).

Passos Krah, D. R., De Oliveira, M. S., Schmal, P., Chiron, G., Da Silva, J. B. F., Krah, A. H., Da Silva De Almeida, S. S. M., and De Castro Cantuária, P. 2023. *Catasetum tavaresii* (Catasetinae), a new species from the central Brazilian Amazon. *Lankesteriana* 23(3): 485–493 (<https://doi.org/10.15517/lank.v23i3.55794>).

Passos Krah, D. R., Schmal, P., Chiron, G., da Silva, J. B. F., Krah, A. H., and de Castro Cantuária, P. 2023. Taxonomic notes on *Catasetum meae* (Orchidaceae: Catasetinae). *Phytotaxa* 609(3): 240–246 (<https://doi.org/10.11646/phytotaxa.609.3.7>).

Perdomo, O., Trujillo Trujillo, E., and Karremans, A. P. 2023. *Masdevallia leonor-baeziana* (Pleurothallidinae): a new species from the Andean-Amazonian foothills of Caquetá, Colombia. *Lankesteriana* 23(2): 139–144 (<https://doi.org/10.15517/lank.v23i2.54019>).

Pupulin, F., Bogarín, D., and Karremans, A. P. 2023. The Lankester Catalogue of Costa Rican Orchidaceae. *Lankesteriana* 23(Supplement): 1–254 (<https://doi.org/10.15517/lank.v23iSupplement.58145>).

Quispe-Melgar, H. R., Ayala, E. S., Llacua-Tineo, Y. S., and Hágsater, E. 2023. Synopsis of the Peruvian species of *Epidendrum* (Orchidaceae: Laeliinae) belonging to the *Scabrum* group, subgroup *Soratae*: diversity and description of a new species. *Phytotaxa* 603(1): 1–26 (<https://doi.org/10.11646/phytotaxa.603.1.1>).

Rodríguez-S, N., Rojas-P, A., Lizcano, A., Trujillo, E. T., and Perdomo, O. 2023. On the distribution and conservation of *Sievekingia hirtzii* Waldevogel (Orchidaceae, Stanhopeinae): first records from Colombia. *Check List* 19(6): 839–845 (<https://doi.org/10.15560/19.6.839>).

Rojas-Alvarado, G. 2023. A new species of *Stelis* subgen. *Unciferia* (Orchidaceae: Pleurothallidinae) from Costa Rica. *Phytotaxa* 607(3): 205–212 (<https://doi.org/10.11646/phytotaxa.607.3.4>).

Romero, B. J. Z. and Solano, R. 2023. *Pleurothallis inaudita*, an unnoticed new species in Pleurothallidinae (Orchidaceae) from southwestern Ecuador. *Phytotaxa* 620(1): 70–78 (<https://doi.org/10.11646/PHYTOTAXA.620.1.6>).

Sierra-Ariza, M. A. and Harding, P. 2023. A new species of *Kefersteinia* (Orchidaceae: Zygopetalinae), with peculiar non-resupinate flowers. *Harvard Papers in Botany* 28(2): 727–733 (<https://doi.org/10.3100/hpib.v28iss2.2023.n10>).

Solano, R. and Licona, E. 2023. The genus *Anathallis* (Pleurothallidinae) in Mexico. *Lankesteriana* 23(3): 633–676 (<https://doi.org/10.15517/lank.v23i3.56884>).

Toscano de Brito, A. L. V. and De Camargo Smidt, E. 2023. Nomenclatural notes in miscellaneous species of *Acianthera* (Pleurothallidinae, Orchidaceae). *Phytotaxa* 620(2): 175–180 (<https://doi.org/10.11646/phytotaxa.620.2.5>).

Valenzuela Gamarra, L. 2023. A new species of *Brachionidium* (Pleurothallinidae) from the Yanachaga Chemillen National Park, Pasco, Peru. *Lankesteriana* 23(3): 477–483 (<https://doi.org/10.15517/lank.v23i3.58033>).

Vélez-Abarca, L., Jiménez, M. M., Ramírez-Iglesias, E., Parra-Suarez, S., Torracchi-Carrasco, E., and Benítez, Á. 2023. Orchid diversity at three elevations in the mountain sandstone plateaus of the Cordillera del Cóndor Ecuador. *Diversity* 15(9): art. 979 (<https://doi.org/10.3390/d15090979>).

Vieira, T. L., de Moraes, I. L., and van Den Berg, C. 2023. Rediscovery of *Prosthechea sessiliflora* (Orchidaceae, Laeliinae) in the Brazilian Cerrado domain provides valuable taxonomic data and allows nomenclatural adjustments. *Phytotaxa* 620(1): 94–100 (<https://doi.org/10.11646/phytotaxa.620.1.9>).

ASIA - PACIFIC (excluding the MIDDLE EAST, AUSTRALIA, and NEW ZEALAND)

Abu Bakar, S. N., Rashid, F., Jamaluddin, M. H., Azmi, M. F. M., Othman, A. S., Zakaria, R., Abd Rahman, A., Raffi, A., and Nordin, F. A. 2023. Unveiling limestone orchid hotspots in the karst hills of northern Peninsular Malaysia. *Diversity* 15(7): art. 819 (<https://doi.org/10.3390/d15070819>).

Amerasinghe, K., Weerasinghe, N., Abeysinghe, M., Bandara, C., Wojtas, K. P., and Kumar, P. 2023. *Gastrochilus flabelliformis* (Blatt. & McCann) C.J.Saldanha (Epidendroideae: Vandeae: Aeridinae), an addition to the orchid flora of Sri Lanka, with taxonomic notes on *Gastrochilus dasypogon* (Sm.) Kuntze. *Feddes Repertorium* 134(4): 257–270 (<https://doi.org/10.1002/fedr.202200057>).

Averyanov, L. V., Nguyen, V. C., Vuong, T. B. A., Nguyen, K. S., Nuraliev, M. S., Nguyen, C. H. U. U., Ormerod, P. A., Maisak, T. V., Diep, D. Q., Lyskov, D. F., and Nong, D. V. A. N. 2023. New orchids in the flora of Vietnam VII (Orchidaceae: tribes Cypripedieae, Cranichideae, Orchideae, and Collabieae). *Phytotaxa* 619(4): 255–276 (<https://doi.org/10.11646/PHYTOTAXA.619.4.1>).

Bandara, C., Atthanagoda, A. G., Bandara, N. L., and Kumar, P. 2023. The study of the tribe Gastrodieae (Orchidaceae, Epidendroideae) in Sri Lanka I: Two new species of *Gastrodia*. *Phytotaxa* 622(2): 115–130 (<https://doi.org/10.11646/phytotaxa.622.2.2>).

Bandara, C., Atthanagoda, A. G., Peiris, G. P., Jayasundara, R., Ranasinghe, B., Kumara, U. N., Aberathne, N., Hettiarachchi, D., Dissanayake, M., Karunathilake, T., Bandara, N. V., Fernando, O. D., Wijesundara, C. B., Bandara, N. L., and Kumar, P. 2023. *Trichoglottis quadriga* (Orchidaceae: Epidendroideae: Vandeae: Aeridinae), a new species from Central Highlands of Sri Lanka. *Phytotaxa* 609(3): 265–272 (<https://doi.org/10.11646/phytotaxa.609.4.2>).

Besi, E. E., Jin, N. Y., Ghazalli, M. N., Endot, M. R., Perdan, K., Ali, N., Yapp, E. J., Chan, E., and Go, R. 2023. *Pinalia elata* (Eriinae)—taxonomic and conservation assessments of a lesser-known narrow endemic orchid from Peninsular Malaysia. *Lankesteriana* 23(2): 145–159 (<https://doi.org/10.15517/lank.v23i2.55511>).

Bhattacharjee, A., Bandyopadhyay, S., Chakraborty, K., Sardar, S., Mondal, S., Chakraborty, S., and Sarkar, S. 2023. Nomenclatural consequences of some new combinations and replacement names in *Eulophia* (Orchidaceae: Eulophiinae). *Rheedia* 33(3): 215–216 (<https://doi.org/10.22244/rheedia.2023.33.03.09>).

Bramhadande, S. P. and Nandikar, M. D. 2023. Nicholas Dalzell's orchids in western India. *Rheedia* 33(3): 174–192 (<https://doi.org/10.22244/rheedia.2023.33.03.03>).

Cai, H., Lin, D.-L., Ye, C., Wang, H.-C., Yang, B.-Y., and Jin, X.-H. 2023. *Neottia linzhiensis* (Orchidaceae, Epidendroideae, Neottieae), a new species from Xizang, China. *Phytotaxa* 629(2): 155–162 (<https://doi.org/10.11646/phytotaxa.629.2.5>).

Chen, F., Xiong, C., Zheng, C.-B., Jin, X.-H., and He, H. 2023. *Cephalanthera yintiaolingensis* (Orchidaceae, Epidendroideae, Neottieae), a new mycoheterotrophic orchid from Northeast Chongqing, China. *Phytotaxa* 626(2): 119–125 (<https://doi.org/10.11646/phytotaxa.626.2.5>).

Cootes, J. 2023. Philippinische *Flickingeria*-Arten. *Die Orchidee* 74(2): 142–152.

Doan, T. V., Averyanov, L., Maisak, T., Nguyen, V. C., Minh, Q. D., Van, S. D., Quang, T. T., and Truong, B. V. 2023. *Chiloschista quangdangii*, a new leafless orchid (Orchidaceae) from northern Vietnam. *Phytotaxa* 606(1): 79–84 (<https://doi.org/10.11646/phytotaxa.606.1.8>).

Dorji, P., Gyeltshen, P., Tobgay, K., Dorji, S., Dorji, U., Doya, S. K., and Kumar, P. 2023. Additions to the orchid flora of Bhutan III: *Paphiopedilum* × *pradhanii*. *Lankesteriana* 23(3): 425–432 (<https://doi.org/10.15517/lank.v23i3.57038>).

Efimov, P. G., Prokopenko, S. V., and Yakubov, V. V. 2022. *Ponerorchis chusua* (Orchidaceae): Systematics, distribution in Russia. *Botanicheskii Zhurnal* 107(5): 433–440 (<https://doi.org/10.31857/S0006813622050015>).

Gogoi, K. and Dek, D. 2023. *Dendrobium crumenatum* Sw. (Orchidaceae)—an addition to the flora of Assam, India. *Pleione* 17(2): 222–226 (<https://doi.org/10.26679/Pleione.17.2.2023.222-226>).

Gogoi, K. and Mega, P. 2023. New addition of two species of orchids for the flora of Arunachal Pradesh, India. *Pleione* 17(2): 232–235 (<https://doi.org/10.26679/Pleione.17.2.2023.227-230>) [*Liparis*].

Gruss, O. and Han, Z.-D. 2023. A new color form of *Gastrochilus bellinus* from China. *Orchid Digest* 87(1): 26–27.

Gruss, O., Tuan, N. H., and Canh, C. X. 2023. *Phalaenopsis hygrophila* forma *fulva*. A new color form from Vietnam. *Orchid Digest* 87(2): 130–136.

Hayakawa, H., Takizaki, Y., Fujita, J.-I., and Ohmori, T. 2023. New records of *Cephalanthera longifolia* in Nagano Prefecture and *C. erecta* f. *pelorica* in Chubu District, Japan. *The Journal of Japanese Botany* 98(4): 214–217 (<https://doi.org/10.51033/jjapbot.jjapbot.ID0149>).

Jenny, R. 2023. *Bulbophyllum trichosalpinxoides*, eine neue Art aus dem Indonesischen Teil von Neuguinea. *Die Orchidee* 74(3): 232–236.

Jitpromma, T., Muangsan, N., Chanokkhun, T., Sae Wai, J., Schuiteman, A., and Watthana, S. 2023. The genus *Micropera* (Orchidaceae: Aeridinae) in Thailand. *Rheedea* 33(3): 159–173 (<https://doi.org/10.22244/rheedea.2023.33.03.02>).

Ke, S., Zhang, C., Huang, Y., Zheng, Q., Ahmad, S., Chen, N., Lan, S., and Liu, Z. 2023. *Cymbidium* × *fugongense* (Orchidaceae; Epidendroideae), a new natural hybrid from China: evidence from morphology and molecular analyses. *Phytotaxa* 606(4): 287–294 (<https://doi.org/10.11646/phytotaxa.606.4.4>).

Khanal, M., Rai, S. K., Kumar, D., Chettri, A., and Sarkar, S. 2023. *Gastrodia bambu* (Orchidaceae: Epidendroideae), a new addition to the orchid flora of India with unique additional characterization and Red List assessment. *The Journal of Japanese Botany* 98(6): 328–334 (<https://doi.org/10.51033/jjapbot.ID0181>).

Kiew, R., Rafidah, A. R., Mohamad Aidil, N., Ong, P. T., and Cheah, Y. H. 2023. The changing flora of Batu Caves, Selangor, Peninsular Malaysia—1890 to 2020. *Malayan Nature Journal* 75(1): 15–43.

Kubentayev, S. A., Efimov, P. G., Alibekov, D. T., Kupriyanov, A. N., Izbastina, K. S., Khalymbetova, A. E., and Perezhogin, Y. V. 2023. Review of Orchidaceae of the northern part of Kazakhstan. *PhytoKeys* 229: 185–213 (<https://doi.org/10.3897/phytokeys.229.105457>).

Kumar, P. 2023. Orchid Flora of Hong Kong: the addition of *Crepidium bahanense*. *Rheedea* 33(3): 199–203 (<https://doi.org/10.22244/rheedea.2023.33.03.05>).

Kumar, P. and Gale, S. W. 2023. *Cheirostylis yunnanensis* var. *gloriae*, an interesting new caterpillar orchid from Hong Kong, China. *Feddes Repertorium* 134(3): 181–190 (<https://doi.org/10.1002/fedr.202200052>).

Kurzweil, H., Ormerod, P., and Kumar, C. S. 2023. The genus *Habenaria* (Orchidaceae) in Myanmar. *Thai Forest Bulletin* 51(2): 98–156 (<https://doi.org/10.20531/tfb.2023.51.2.13>).

Li, M.-K., Yu, Y.-P., Ma, P.-Y., Chen, X.-D., Deng, J.-P., Liu, Q., Luo, Y., and Xing, Z. 2023. *Gastrochilus linzhiensis* (Aeridinae, Vandaeae, Epidendroideae, Orchidaceae), a new species from Xizang, China. *Taiwania* 68(3): 314–317 (<https://doi.org/10.6165/tai.2023.68.314>).

Margońska, H. B. 2023. A new *Liparis* species (Orchidaceae, Liparidinae) in *L.* section *PlatyGLOSSUM*. *Phytotaxa* 629(3): 290–294 (<https://doi.org/10.11646/phytotaxa.629.3.11>).

Miao, J. L., Zhang, H. Y., Zhu, W. T., Liu, Z., Ji, H. Y., Liu, Z. J., and Zhai, J. W. 2023. *Bulbophyllum deergongense* (Dendrobiinae; Malaxideae; Epidendroideae; Orchidaceae), a new species from Tibet, China. *Phytotaxa* 619(2): 197–202 (<https://doi.org/10.11646/phytotaxa.619.2.8>).

Nguyen, T. L. T., Averyanov, L. V., Maisak, T. V., Nguyen, V. C., Nguyen, V. K., Pham, T. T. D., Nguyen, D. D., and Truong, B. V. 2023. *Phaius duongae* (Orchidaceae, Collabieae), a new cauline species from southern Vietnam. *Phytotaxa* 606(1): 73–78 (<https://doi.org/10.11646/phytotaxa.606.1.7>).

Nuraliev, M. S., Averyanov, L. V., Nguyen, K. S., Nguyen, C. H., Le, T. A., Maisak, T. V., Lyskov, D. F., Kuznetsov, A. N., and Kuznetsova, S. P. 2023. The mycoheterotrophic genus *Didymoplexiella* (Orchidaceae) in Cambodia, Laos and Vietnam. *Phytotaxa* 620(1): 18–32 (<https://doi.org/10.11646/phytotaxa.620.1.2>).

Ormerod, P. and Juswara, L. 2023. Notes on some Malesian Orchidaceae VI. *Harvard Papers in Botany* 28(2): 715–719 (<https://doi.org/10.3100/hpib.v28iss2.2023.n8>).

Pignat, M. 2023. Two new species of *Dendrobium* Sw. from New Caledonia in the section *Macrocladium* Schltr. and a note about *Dendrobium kanakorum* Kraenzl. *Adansonia* 45(25): 385–393 (<https://doi.org/10.5252/adansonia2023v45a25>).

Pignat, M., Laudereau, C., and Laudereau, P. L. 2023. Un synopsis du genre *Calanthe* R.Br. (Collabieae, Orchidaceae) en Nouvelle-Calédonie, avec la caractérisation de deux nothoespèces. *Adansonia* 45(18): 293–305 (<https://doi.org/10.5252/adansonia2023v45a18>).

Pignat, M., Laudereau, C., and Laudereau, P. L. 2023. Liste annotée des Goodyerinae Klotzsch (Orchidaceae) de Nouvelle-Calédonie avec la description de deux nouvelles espèces. *Adansonia* 45(19): 307–325 (<https://doi.org/10.5252/adansonia2023v45a19>).

Pingyot, T., Nuammee, A., Pumikong, S., Jumnongpakdi, K., and Pedersen, H. Æ. 2023. *Cheirostylis takeoi* (Orchidaceae), a new record for Thailand. *Thai Forest Bulletin* 51(2): 73–77 (<https://doi.org/10.20531/tfb.2023.51.2.10>).

Qin, Q., Yang, Y., Lv, X., Zuo, Y., Xia, C., and Deng, H. 2023. *Pleione xiushanensis* (Orchidaceae), a new species from Mt. Wulingshan Region, China. *Phytotaxa* 606(3): 211–219 (<https://doi.org/10.11646/phytotaxa.606.3.4>).

Qin, Y., Tan, W. N., Luo, L. J., and Liu, Y. 2023. *Cleisostoma mulunense* (Orchidaceae), a new species from Guangxi, China. *Phytotaxa* 616(3): 295–300 (<https://doi.org/10.11646/phytotaxa.616.3.9>).

Saavedra, A. J. L., Pitogo, K. M. E., and Boos, R. 2023. A new species of *Pinalia* (Orchidaceae) with bell-shaped flowers from the mossy forest of southern Mindanao, Philippines. *Phytotaxa* 626(2): 93–100 (<https://doi.org/10.11646/phytotaxa.626.2.2>).

Samuel, A. H. 2023. *Lecanorchis japonica* (Orchidaceae)—A new generic record for the orchid flora of Nepal. *The Journal of Japanese Botany* 98(4): 205–207 (<https://doi.org/10.51033/jjapbot.jjapbot.ID0106>).

Schuiteman, A. 2023. Morphology of *Dendrobium* sect. *Dendrobium* s.l. *Orchid Digest* 87(4): 225–227.

Schuiteman, A. 2023. Ecology of *Dendrobium* sect. *Dendrobium* s.l. *Orchid Digest* 87(4): 228–233.

Schuiteman, A. 2023. Phylogeny and classification of *Dendrobium* sect. *Dendrobium* s.l. *Orchid Digest* 87(4): 234–237.

Schuiteman, A. 2023. Distribution of *Dendrobium* sect. *Dendrobium* s.l. *Orchid Digest* 87(4): 238.

Schuiteman, A. 2023. *Dendrobium* sect. *Dendrobium* s.l. checklist. *Orchid Digest* 87(4): 239–283.

Sharma, H. B. and Bhattacharyya, D. 2023. Checklist of the genus *Dendrobium* Sw. (Orchidaceae) in Manipur, India. *Journal of Threatened Taxa* 15(7): 23567–23574 (<https://doi.org/10.11609/jott.8272.15.7.23567-23574>).

Suetsugu, K., Hirota, S. K., Yonekura, K., Abe, A., Suyama, Y., and Hsu, T.-C. 2023. First record of *Thrixspermum annamense* (Orchidaceae) from Iriomote Island, Ryukyu Islands, Japan, with discussions on its intraspecific taxonomy. *Acta Phytotaxonomica et Geobotanica* 74(1): 121–129 (<https://doi.org/10.18942/apg.202306>).

Suetsugu, K. and Hsu, T.-C. 2023. First record of *Taeniophyllum complanatum* (Orchidaceae) from Ryukyu Islands, Japan. *Acta Phytotaxonomica et Geobotanica* 74(3): 177–182 (<https://doi.org/10.18942/apg.202312>).

Truong, B. V., Averyanov, L. V., Maisak, T. V., Dang, M. Q., Nguyen, V. C., Amlser[sic: Amsler], R., Nguyen, Q. B., and Dang, V. S. 2023. *Bulbophyllum*[sic: *Bulbophyllum*] sect. *Cirhopetalum*[sic: *Cirrhopetalum*] s. str. (Orchidaceae) in Vietnam with the description of a new species, *B. thangii*, and a new national record, *B. fenestratum*. *Phytotaxa* 625(2): 201–210 (<https://doi.org/10.11646/phytotaxa.625.2.6>).

Truong, B. V., Le, M. D., Nguyen, H. Q., Nguyen, P. H., and Cootes, J. 2023. Neufunde von drei Miniaturorchideen im Nationalpark Phu Quoc, Vietnam | New records of three miniature orchids from Phu Quoc National Park, Vietnam. *Die Orchidee* 74(2): 114–119 [*Bulbophyllum*, *Oberonia*].

Wang, M.-N., Wu, X.-Y., Tan, C.-J., Yu, P., Rao, W.-H., Chen, J.-S., Li, J., and Chen, J.-B. 2023. *Neottia bifidus*[sic] (Orchidaceae, Epidendroideae, Neottieae), a new mycoheterotrophic species from Guizhou, China. *PhytoKeys* 229: 215–227 (<https://doi.org/10.3897/phytokeys.229.103107>).

Wang, M.-N., Wu, X.-Y., Tan, C.-J., Yu, P., Rao, W.-H., Chen, J.-S., Li, J., and Chen, J.-B. 2023. *Neottia maolanensis*, a replacement name for *Neottia bifida* M.N.Wang (Orchidaceae). *PhytoKeys* 235: 81–82 (<https://doi.org/10.3897/phytokeys.235.1136>).

Wojtas, K. P., Bandara, C., and Kumar, P. 2023. A new species of *Chiloschista* (Orchidaceae, Aeridinae) from Myanmar. *Phytotaxa* 612(1): 57–66 (<https://doi.org/10.11646/phytotaxa.612.1.4>).

Wu, Y.-B., Han, Y., He, X.-H., Chen, H.-L., Wu, J.-Z., Ye, Q., and Zheng, C.-J. 2023. *Anoectochilus zhongshanensis* (Orchidaceae), a new species from Guangxi, China. *PhytoKeys* 234: 203–218 (<https://doi.org/10.3897/phytokeys.234.111106>).

Xiao, Z., Tu, R., Liu, A., Gong, Y., Ding, C., and Yu, X. 2023. Newly recorded species of Orchidaceae from Hunan Province (III). *Journal of Nanjing Forestry University (Natural Sciences Edition)* 47(5): 255–258 (<https://doi.org/10.12302/j.issn.1000-2006.202111037>).

Ya, J.-D., Wang, W.-T., Liu, Y.-L., Jiang, H., Han, Z.-D., Zhang, T., Huang, H., Cai, J., and Li, D.-Z. 2023. Five new and noteworthy species of Epidendroideae (Orchidaceae) from southwestern China based on morphological and phylogenetic evidence. *PhytoKeys* 235: 211–236 (<https://doi.org/10.3897/phytokeys.235.1112>) [*Gastrochilus*, *Neottia*, *Papilionanthe*].

Ye, C., Li, J., Tian, H., Lin, D., and Jin, X. 2023. *Kuhlthasseltia motuoensis* (Orchidaceae, Orchidoideae, Cranichideae), a new species from Xizang, China. *Phytotaxa* 626(2): 141–144 (<https://doi.org/10.11646/phytotaxa.626.2.9>).

Yudistira, Y. R. and Mustaqim, W. A. 2023. A new species of *Schoenorchis* (Orchidaceae) from West Java, Indonesia. *Blumea* 68(1): 66–69 (<https://doi.org/10.3767/blumea.2023.68.01.07>).

Yudistira, Y. R., Mustaqim, W. A., and Idris, A. R. 2023. A new species of *Trichoglottis* (Orchidaceae) from eastern Kalimantan, Indonesia. *Telopea* 26: 127–131 (<https://doi.org/10.7751/telepea17325>).

Zeng, M.-Y., Wu, Y.-W., Wei, C.-Y., Wu, Y.-H., and Li, M.-H. 2023. *Bulbophyllum xiajinchangense* (Orchidaceae; Malaxideae), a new species from China: evidence from morphological and DNA analysis. *Phytotaxa* 629(3): 275–282 (<https://doi.org/10.11646/phytotaxa.629.3.9>).

Zhang, J.-Y., Cheng, Y.-H., Liao, M., Liu, G.-Y., Yang, P.-Y., Xu, B., and He, H. 2023. *Thrixspermum taeniophyllum* (Orchidaceae, Epidendroideae), a new species from southwest China, based on molecular and morphological evidence. *PhytoKeys* 230: 145–156 (<https://doi.org/10.3897/phytokeys.230.104273>).

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Anghelescu, N. E. D. G., Kertesz, H., Balogh, L., Balogh, M., Kigyossy, N., Georgescu, M. I., Petra, S. A., Toma, F. 2023. *Pseudorchis albida* (L.) Á.Löve & D.Löve—a new orchid species to Romanian flora. *Acta Horticulturae* 1368: 407–422 (<https://doi.org/10.17660/ActaHortic.2023.1368.50>).

Anghelescu, N. E. D. G., Kertész, H., Balogh, L., Kigyossy, N., Balogh, M., Georgescu, M. I., Petra, S. A., and Toma, F. 2023. Orchids of Romania—taxonomy, morphology, pollination strategies, habitats and conservation. *Acta Horticulturae* 1368: 371–389 (<https://doi.org/10.17660/ActaHortic.2023.1368.47>).

Blatt, H. 2022. A Bee or not a Bee, this is no longer the question oder warum *Ophrys fuciflora* der legitime Name der Hummel-Ragwurz ist. *Berichte aus den Arbeitskreisen Heimische Orchideen* 39(1–2): 67–98.

Bobocea, M.-M., Gerbaud, O., and Kreutz, K. 2021. *Nigritella suceveana* C.A.J. Kreutz, M.M. Bobocea & O. Gerbaud, spec. nov. *Bulletin de la Société Française d'Orchidophilie Rhône-Alpes* 44: 35–36.

Buono, S., Filippelli, F., Belardinelli, G., and Rempicci, M. 2023. New distribution data of orchids in Latium (central Italy). *Journal Europäischer Orchideen* 55(1): 87–98.

Buono, S., Rempicci, M., and Forbicioni, L. 2023. Observation of *Adscita* spec. (Lepidoptera, Zygaenidae) visiting *Anacamptis laxiflora* in Latium (central Italy). *Journal Europäischer Orchideen* 55(2–4): 485–490.

Efimov, P. G., Razumovskaya, A. V., Krivenko, D. A., Punina, E. O., Golovina, E. O., Borovichev, E. A., and Kopeina, E. I. 2023. *Dactylorhiza maculata* species aggregate (Orchidaceae: Orchidoideae) in Murmansk Region (North European Russia): morphological delimitation of plants with different ploidy level. *Botanica Pacifica* 12(2): 42–50 (<https://doi.org/10.17581/bp.2023.12s08>).

Fardeeva, M., Lukyanova, Y., Eskina, A., and Usmanov, B. 2023. Distribution and habitat features of rare orchid species (Orchidaceae Juss.) in the National Park “Nizhnyaya Kama”. *E3S Web of Conferences* 420: art. 01023 (<https://doi.org/10.1051/e3sconf/202342001023>).

Foelsche, W., Foelsche, G., Gerbaud, M., and Gerbaud, O. 2022. *Nigritella savogiensis* spec. nov., *Nigritella mauriennsis* spec. nov. und *Nigritella hygrophila*, drei neue Kohlröschen der Westalpen. *Berichte aus den Arbeitskreisen Heimische Orchideen* 39(1–2): 142–190.

Griebel, N. 2022. Orchideen-Neufunde in Österreich III. *Berichte aus den Arbeitskreisen Heimische Orchideen* 39(1–2): 109–129.

Heggelund, I., Johnsen, O., Skrede, S., Hedrén, M., Giorgi, T., Romolini, R., and Lorenz, R. 2023. Funde der Hybride *Coeloglossum viride* × *Dactylorhiza maculata* s.l. in Nordnorwegen und in Mittelitalien. *Journal Europäischer Orchideen* 55(1): 57–86.

Heinrich, W. and Krichbaum, M. 2023. Zur Populationsentwicklung von *Himantoglossum hircinum*—30-jährige Beobachtungen in einem Gartengrundstück in Jena (Thüringen). *Journal Europäischer Orchideen* 55(1): 187–225.

Hennecke, M., Merou, L. M., and Prehl, A. 2023. Neufunde 2022 aus dem Rems-Murr-Kreis. *Journal Europäischer Orchideen* 55(1): 227–233.

Kalmykova, O. G. and Kin, N. O. 2023. Orchids of Buzuluk pine forest in South-east of European Russia: diversity and conservation issues. *Forestry Ideas* 29(1): 48–61.

Kirillova, I. A. and Kirillov, D. V. 2023. Living at the edge: A comparative study of the central and marginal populations of *Dactylorhiza traunsteineri* (Orchidaceae) in the European Northeast of Russia. *Moscow University Biological Sciences Bulletin* 78(2): 82–88 (<https://doi.org/10.3103/S0096392523020037>).

Lachmair, H. 2022. Eine neue Spielart von *Epipactis purpurata* G. E. Smith im oberösterreichischen Hügelland und neu für Österreich: *Epipactis purpurata* f. *variegata* Zolubak & Jakubská-Busse. *Berichte aus den Arbeitskreisen Heimische Orchideen* 39(1–2): 99–108.

Lorenz, R. 2023. Zur Typisierung von *Orchis maculata* var. *sudetica* Poech ex Rchb.f. *Journal Europäischer Orchideen* 55(1): 182–186.

Martin, R. 2021. Les orchidées des petites îles de Méditerranée occidentale I—Les îles espagnoles des Baléares. *Bulletin de la Société Française d'Orchidophilie Rhône-Alpes* 44: 48–54.

Monteiro, C., Urbano, H., Borges, L., Oliveira, M., Pessoa, J., Pereira, C., Pereira, A., Areias, F., Monteiro, J., Gathoye, J.-L., and Tyteca, D. 2023. The Orchid Flora of Portugal—Addendum N° 9—*Epipactis bugacensis*, a new species for Portugal. *Journal Europäischer Orchideen* 55(2–4): 470–484.

Perazza, G., Andreoli, G., and Pighi, E. 2023. ×*Dactyloglossum mixtum* (*Coeloglossum viride* × *Dactylorhiza fuchsii*), raro ibrido di Orchidaceae rinvenuto sui Monti Lessini nel Veneto. *Journal Europäischer Orchideen* 55(1): 41–56.

Rebbas, K., Heddad, M., Said, B. S. Z., Haddad, S., and Vêla, E. 2023. Les orchidées du Parc National de Djurdjura (Grande Kabylie, Algérie) sur 17 années—inventaire, taxonomie et biogéographie. *Journal Europäischer Orchideen* 55(1): 99–181.

Serra Laliga, L., Fidel, L., García Belleville, G., Hernández, J. C., Mir Pegueroles, C., Marín, J., Navarro, A., Oltra, J. E., Ormad, J., and Torregrosa, R. 2023. Adiciones y correcciones a la orquidoflora Valenciana, XI. *Flora Montiberica* 86: 27–34.

Steinfeld, P. 2022. Über ein bemerkenswertes Vorkommen mit seltenen Farbvarianten von *Aceras anthropophorum* (L.). W. T. Aiton bei Saarbrücken. *Berichte aus den Arbeitskreisen Heimische Orchideen* 39(1–2): 130–141.

Wieland, A., Haynold, B., and Ockert, W. 2023. Bestandsentwicklung der Orchideen im Landkreis Schwäbisch Hall—Revisionskartierung 2018 bis 2022. *Journal Europäischer Orchideen* 55(2–4): 251–469.

GENERAL

Efimov, P. G. 2023. Orchids of Russia and Crimea: herbarium collections provide sufficient data to recover the distributional changes with time. *Flora: Morphology, Distribution, Functional Ecology of Plants* 305: art. 152334 (<https://doi.org/10.1016/j.flora.2023.152334>).

Karremans, A. P. and Pupulin, F. 2023. (2987) Proposal to conserve the name *Vanilla* (Orchidaceae) with a conserved type. *Taxon* 72(5): 1121–1122 (<https://doi.org/10.1002/tax.13067>).

Kindlmann, P., Kull, T., and McCormick, M. 2023. The distribution and diversity of orchids. *Diversity* 15(7): art. 810 (<https://doi.org/10.3390/d15070810>).

Taylor, A., Keppel, G., Weigelt, P., Zotz, G., and Kreft, H. 2021. Functional traits are key to understanding orchid diversity on islands. *Ecography* 44(5): 703–714 (<https://doi.org/10.1111/ECOG.05410>).

Thompson, J. B., Davis, K. E., Dodd, H. O., Wills, M. A., and Priest, N. K. 2023. Speciation across the Earth driven by global cooling in terrestrial orchids. *Proceedings of the National Academy of Sciences of the United States of America* 120(29): art. e2102408120 (<https://doi.org/10.1073/pnas.2102408120>).

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