

Editorial

If you plan to describe a new orchid species, your first step is to make sure that it is indeed new, that it is *undescribed*. Thanks to our Linnaean classification system we do not have to compare our suspected novelty with every known plant species. We do not even have to check every known orchid, just the ones that are closely related. How do we know which ones are closely related? That's easy: they belong to the same genus as our suspect. (I am assuming that the new species is not also a member of a new genus. It is rare for a new species not to belong to any known genus. For now, I am also discounting the possibility of using molecular methods.)

Let's say that we think we have an undescribed *Dendrobium* species from Cambodia. As there is no modern monograph of *Dendrobium*, our best option is to consult regional accounts, especially those of nearby countries. For *Dendrobium* there is an excellent, well-illustrated revision of the species from Thailand by Seidenfaden (1982), which, however, at present is not available online, and the same is true for his synopsis of the Orchidaceae of Indochina (Seidenfaden, 1992), which, although now incomplete, includes the *Dendrobium* species of Cambodia. Next, there is the relevant part of the *Flora of China*, which is [accessible on the internet](#). If these sources do not turn up our suspect, then our task has only just begun. *Dendrobium* has about 1,500 known species, and as if that is not enough, the number of species names is almost 2,700, which means that some 1,200 names are synonyms. Synonyms cannot always be discarded, because if our suspected novelty resembles one of the known species, it is possible that it had mistakenly been thrown into the bin of synonymy. Many candidates can be eliminated by looking at the type specimens, as most of the major herbaria have digitised at least part of their collections. But type specimens or images thereof may be unavailable or inconclusive.

We soon encounter our next obstacle: a lot of those 2,700 names were first published in some 19th or early 20th century periodical, such as the *Journal of the Linnean Society*, the *Gardener's Chronicle*, or the *Repertorium Specierum Novarum Regni Vegetabile*, not to forget the *Beihefte* of the last-mentioned. As a taxonomist, you always must go back to the first description, the so-called *protologue*, because later descriptions, if they exist, may have added different species to the mix or they may contain errors in the type citations. Before 2006, you would then have had to gain access to one of the few libraries in the world that have most of these obscure but indispensable publications in their possession, for example, the library of the Royal Botanic Gardens, Kew, shown here. One volume of the *Gardener's Chronicle*, in which the eccentric Heinrich Gustav Reichenbach described so many orchids, weighs about five kilograms and these volumes stretch for several metres on the shelves, one or two for each year, like the year-rings of a tree. Mining dozens of references using the physical copies of the journals used to be hard work.



What happened in 2006 was like replacing a pickaxe with dynamite. In that year, the [Biodiversity Heritage Library](#) was launched, “the world’s largest open access digital library for biodiversity literature and archives.” Mining has become so much easier. Today, 16 years onwards, most of the journals that a taxonomist would need are freely available through the BHL website, and if they don’t have it, there is a chance that the [Hathi Trust](#) (based largely on

the digital depository of Google Books) may come to the rescue.

However, if you need something published after 1923, it may not be available online, or perhaps only in “snippet view”. I found that even literature published well before 1923 may not be accessible. If, like me, you needed to consult the *Revue de l'horticulture belge et étrangère* for the year 1914, you would have found that it is not in the BHL and that the Hathi Trust and [Google Books](#) only offer snippet view. This means that the journal has been digitised but for copyright reasons remains all but hidden. Copyright issues are also behind much of the post-1923 literature being off limits. It appears that half of this literature is not even in copyright, it is just that nobody knows who the copyright holders are. As a result, botanists working in institutions that are not as blessed as Kew remain cut off from many vital sources. This is clearly hampering their research, which in turn slows down the rate at which new species can be described. As a society we need to consider what is more important: keeping millions of pages of scientific information behind virtual lock and key or doing away with unreasonable copyright obstacles and putting in the public domain everything that isn't making money. After all, there is no commercial interest in a botanical periodical published in, say, 1953, is there?

Am I suggesting that libraries can be mothballed once their books and journals have been digitised? No, not at all. To begin with, recently published books and journals are often not in the public domain (that is, free of copyright), so that only physical copies can be consulted. Thousands of items are added yearly, and to get access, researchers still need their library. Library staff are also required to help control the avalanche of electronic publications, for example, by arranging institutional access to the online versions of the most important journals.

Second, I would argue that not all publications, once digitised, should automatically be transferred to a storage facility. There is still the serendipity factor to consider. If you are in a library on a mission to hunt down an elusive protologue, you often cannot resist browsing a few other books and journals that catch your eye. And sometimes we then come across information that turns out to be useful for our research. Such coincidences are impossible to predict, but they could well be more valuable than the amount of space gained by banishing our venerable tomes off site. Next time when you feel you are glued to your chair, take a stroll in your local library—you never know what you may find.

References

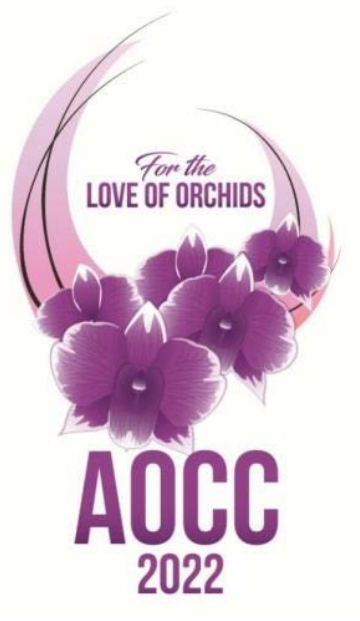
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Please click [here](#) for the Repository of past issues of the Orchid Research Newsletter, starting with issue 39 (2002).

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 **22nd Australian Orchid Council Conference & Show** will be held from 31 August to 4 September in the Logan Metro Sports & Events Centre in Crestmead, Queensland, Australia. See <https://aocc2022.org/conference> for more details.

Jobs

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



The National Parks Board in Singapore is looking for a Principal/Senior Researcher (Orchid Diversity & Conservation). Closing date for applications is 6 August 2022.

See https://www.careers.hrp.gov.sg/sap/bc/ui5_ui5/sap/ZGERCF004/index.html?search-keyword=Orchid%20Diversity%20%20Conservation#/JobDescription/12512153/005056a3-d347-1eec-bfb6-ed4d5a390345.

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.

Susanne Masters is a PhD student working on the international trade in wild orchids collected for salep, which includes 35 species from the genera *Anacamptis*, *Dactylorhiza*, *Himantoglossum*, *Ophrys*, *Orchis*, and *Serapias*, at Naturalis Biodiversity Center and Leiden University, Netherlands. Her project is supervised by Dr Barbara Gravendeel, Dr Hugo de Boer, and Dr Tinde van Andel.

In her first publication for her thesis Susanne analysed data from patent applications and found that the depiction of salep in conservation literature should be updated with commercial interest from countries and in uses outside of traditional food-medicine uses in the Eastern Mediterranean. Surprisingly salep orchids had industrial applications, including in fracking fluid and explosives, which utilised the colloidal properties of glucomannan in their tubers. Other uses of salep in contemporary applications included in manufacturing edible films and biodegradable materials, and in combination with Traditional Chinese Medicine preparations in pharmaceutical form. In addition to yielding specific information on uses of salep orchids the publication offers a novel tool for conservation science in the form of patent analysis as a means of horizon scanning for incipient commercial interest in wild plants and animals.

Patent analysis as a novel method for exploring commercial interest in wild harvested species
<https://doi.org/10.1016/j.biocon.2020.108454>

Another publication from her thesis adds to knowledge on known trade by using a web crawler to gather sales data. This highlighted that low-value trade can be derived from high-volume wild collection, i.e., numbers of plants destructively harvested from the wild can be high despite low transaction value of trade. Additionally, it showed a significant price gap between wild-harvested orchids and cultivated orchids. With online trade facilitating cross-border transactions it is harder for vendors and consumers to keep track of legislation that may be breached as different countries have different restrictions on the collection and sale of wild orchids.

Quantifying an online wildlife trade using a web crawler
<https://doi.org/10.1007/s10531-022-02367-z>

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 World Checklist of Selected Plant Families (<https://wcsp.science.kew.org/>) for accepted names and synonyms as well as for building your own checklists. Alternatively, the Plants of the World Online website (<https://powo.science.kew.org/>) provides similar information with added maps and illustrations.

Recent Literature

If you are aware of any 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 (January 2023). 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

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Pollination, population genetics, and seed dispersal

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