processes, and perhaps encouraged with a new Recommendation about epithets with pejorative meaning in the next edition of the *International Code of Nomenclature for algae, fungi, and plants*.

It is important not to forget local people and local scientists who may or may not identify as indigenous. Local scientists are critical contributors to the understanding of biodiversity and how it is named; amplification of their voices and the voices of local communities they come from is another important way in which to acknowledge contribution and broaden the dialogue about the naming of biodiversity. It is no accident that one of the objectives of the International Panel on Biodiversity and Ecosystem Services (IPBES) is "enhanced recognition of and work with indigenous and local knowledge systems" (https://ipbes.net/indigenous-local-knowledge).

We feel that Gillman & Wright (2020) open an important topic for discussion in the nomenclatural community and more widely in the study of algae, fungi and plants. Affirmation and acknowledgement of indigenous and local peoples' contribution to nomenclature and to the knowledge of biodiversity will be an important step in the decolonisation of science. Even though the changes they propose to the *International Code of Nomenclature for algae, fungi, and plants* need further thought and refinement, there is no time like the present to begin the conversation. As a community, we mustn't forget that 20 years ago, the thought of electronic publication of new names for algae, fungi and plants was thought totally unworkable. Look at us now.

Literature cited

Gillman, L.N. & Wright, S.D. 2020. Restoring indigenous names in taxonomy. *Commun. Biol.* 3: 609. https://doi.org/10.1038/s42003-020-01344-y

Turland, N.J., Wiersema, J.H., Barrie, F.R., Greuter, W., Hawksworth, D.L., Herendeen, P.S., Knapp, S., Kusber, W.-H., Li, D.-Z., Marhold, K., May, T.W., McNeill, J., Monro, A.M., Prado, J., Price, M.J. & Smith, G.F. (eds.) 2018. *International Code of Nomenclature for algae, fungi, and plants (Shenzhen Code) adopted by the Nineteenth International Botanical Congress Shenzhen, China, July 2017*. Regnum Vegetabile 159. Glashütten: Koeltz Botanical Books. https://doi.org/10.12705/Code.2018

Veale, A.J., De Lange, P., Buckley, T.R., Cracknell, M., Hohaia, H., Parry, K., Raharaha-Nehemia, K., Reihana, K., Seldon, D., Tawiri, K. & Walker, L. 2019. Using te reo Māori and ta re Moriori in taxonomy. *New Zealand J. Ecol.* 43: 3388. https://doi.org/10.20417/nzjecol.43.30

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DOI: https://doi.org/10.1002/tax.12411

First published as part of this issue. See online for details.

■ THE FLOURISHING OF VIRTUAL SEMINARS: STRENGTHENING THE GLOBALIZATION OF RESEARCH THROUGH SOL SEMINARS ONLINE

Science collaboration and communication are cornerstones of discovery and quality research. There has always been demand for sharing research and ideas with colleagues. We have come a long way since the time when Joseph Banks or Charles Darwin sent handwritten letters to colleagues waiting months for replies to virtually instant e-mails and video conferences. The growth of virtual seminars has intensified over the last decade, and the number of these online meetings has recently exploded due to the global pandemic of COVID-19. There are now virtual seminars ranging from evolution (EvoEcoSeminars) to polyploidy (https://www.barkerlab.net/polyweb) to plant families (SOL Seminars Online, Convolvulaceae Network, Melastomataceae Virtual Seminars).

Though this movement has grown due to unfortunate events, the desire for research to become more globalized has been around for centuries. Collaborations between multiple countries have significantly increased during 2000–2015 (Gui & al., 2019), resulting in innovative competitive advantages for the countries involved (Chen & al., 2019). While research collaborations are becoming increasingly relevant, the ability for researchers to communicate across borders is the stepping-stone that significantly promotes international cooperation. Until recently, this has been achieved by international conferences (Su & al., 2016), but they are often biased by their location and can be costly for attendees from developing countries, leaving talented researchers out of the conversation. By using a virtual platform, it is easier to get people from multiple countries together, and the fact that participation does not require travelling allows researchers with limited resources to attend and participate fully. While there are several ways to achieve science communication, we believe that virtual seminars play an important role in strengthening global communication and improving the joining-up of research communities. So, as early-career researchers from different countries, we proposed in 2020 starting a seminar series in the subject of our research, the plant family Solanaceae.

Over the years, international meetings in the Solanaceae community have proliferated to discuss the latest research findings. Multiple events have been organized in the last 50 years, from the International Solanaceae Conferences starting back in 1976 (Birmingham, U.K.; Hawkes & al., 1979) to the more recent SOL Genomics meetings (see solgenomics.net) and Latin-American Symposia focusing on Solanaceae. With many research groups actively working in this diverse family of 99 genera containing around 2700 species (Knapp & al., 2004), an additional need has emerged for space to present

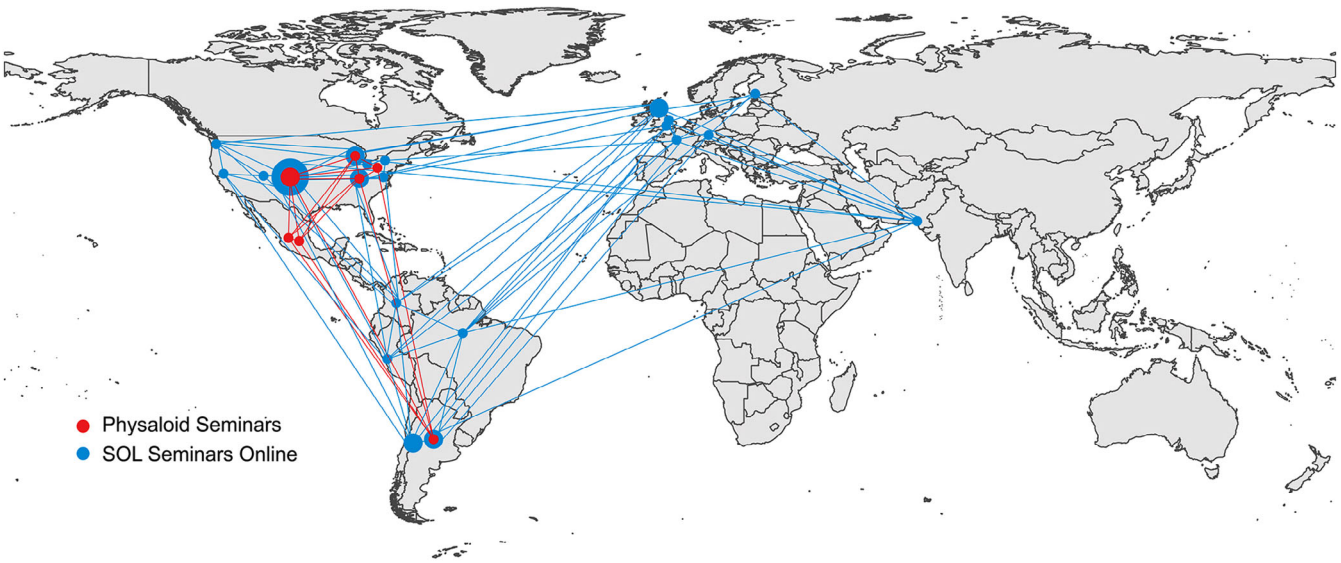

Fig. 1. Illustrative network across presenters of the Physaloid Seminars and SOL Seminars Online during 2020. Each pie represents speakers, and the size of pies is proportional to the number of speakers per locality.

research on a regular basis. Working primarily in a smaller nightshade group, commonly known as the "physaloids", we found that much-unpublished research together with increased interest in the physaloids was a compelling reason to start a platform for regular online seminars,

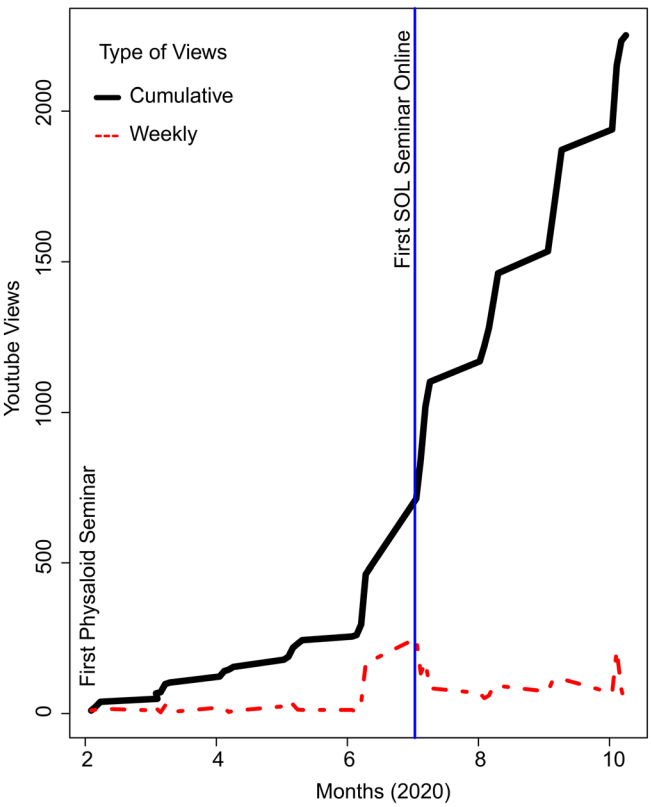

Fig. 2. Cumulative (black solid line) and weekly YouTube views (red dotted line) over the recorded talks of Physaloid Seminars and SOL Seminars Online during 2020. The vertical blue line marks the first SOL Seminar Online.

following in the footsteps of the Convolvulaceae community (Pretz & al., 2020). Beginning in February 2020, **Physaloid Seminars** were arranged every two weeks, taking advantage of a number of freely available tools: a YouTube Channel (https://www.youtube.com/channel/UCBKAYT-QFTMDZfHFho9VAqQ) to upload the recorded seminars, a Google Group (https://groups.google.com/g/SolSeminar) to send the schedule and encourage discussion, and a webpage (https://physaloidseminars.weebly.com/) for advertisement. These video-based seminars were created with three clear goals: (1) to encourage collaboration, (2) to aid in sharing information, and (3) to improve quality research while having low environmental impact. After eight Physaloid seminars and over 300 views of the recorded seminars on our YouTube channel, our next step became clear.

The expansion to the current platform of **SOL Seminars Online** was accompanied by changes in scope, frequency and organization. Whereas the previous seminars only included speakers from America, the new series was intended to broaden participation of researchers across the globe (Fig. 1), meeting now on a weekly, rather than biweekly, basis. We were also joined by Andrés Orejuela (Colombia) as a co-organizer. From July 2020 to the present (November 2020), over 180 solanologists at different stages in their careers joined our Google Group, and views of the recorded talks increased by almost 8 times (from c. 300 to 2.3K; Fig. 2). Although most of the YouTube views to the recorded talks were from the United States, participation was considerably increased from, in order, Peru, Brazil, Argentina, United Kingdom, and Colombia. The thirty-two SOL Seminars Online have been promoted on the SolanaceaeSource website (http://solanaceaesource.org/) and two social media, where Twitter had the highest engagement in talk views (over 27% of the views of YouTube). We have also focused on gender equality in presenters in the series; women were represented by over 50% of the speakers. We also consciously invited researchers at different career stages to speak in the series, encouraging students, postdocs and young researchers to promote their work.

SOL Seminars Online has not only fostered human diversity in participants and speakers, but also included a wide breadth of

research topics within Solanaceae. Many conferences are centered around a theme (e.g., SOL Genomics on genomics and breeding; Latin-American Symposia of Solanaceae on systematics and evolution; ESA meetings on ecology), and researchers tend to attend only one or two of these conferences on a regular basis. This limits the interaction between more traditional sciences such as systematics and taxonomy with breeders and molecular biologists. In SOL Seminars Online, presenters have covered a broad range of topics from taxonomy, evolutionary history, population genetics, metabolic pathways, floral color evolution, ecology, plant pathology, breeding, ethnobotany, and much more. We believe that this interdisciplinary communication is strengthening and broadening the research networks within Solanaceae, and this virtual family seminar series model could be applied to other plant groups.

Next steps

One of the largest advantages of virtual meetings is inclusivity, and we seek to expand the diversity of our seminars in multiple ways. Our primary goal is to increase geographical diversity, especially including presenters and more attendees from Africa, Asia and Australia where we see clear gaps of representation (Fig. 1). Upcoming seminars in 2021 will also encourage a diversity of topics to promote collaboration from different research areas in Solanaceae. Although in-person international conferences still play a crucial role that cannot be entirely addressed by virtual ones, we expect the prevalence of this type of regular seminars to complement communication and international research collaboration across botany, for the benefit of both the people involved and the research they do.

Acknowledgments

We are grateful to A.R. Simões and L. Eserman for encouragement and advice to organize the SOL Seminars Online, and A. Orejuela for his help in organization and promotion. We would like to thank S. Knapp, who reviewed and provided valuable improvements to this column.

Literature cited

Chen, K., Zhang, Y. & Fu, X. 2019. International research collaboration: An emerging domain of innovation studies? *Research Policy* 48(1): 149–168. https://doi.org/10.1016/j.respol.2018.08.005

Gui, Q., Liu, C. & Du, D. 2019. Globalization of science and international scientific collaboration: A network perspective. *Geoforum* 105: 1–12. https://doi.org/10.1016/j.geoforum.2019.06.017

Hawkes, J.G., Lester, R.N. & Skelding, A.D. 1979. *The biology and taxonomy of the Solanaceae*. Linnean Society Symposium Series, No. 7. London & New York: Academic Press.

Knapp, S., Bohs, L., Nee, M. & Spooner, D.M. 2004. Solanaceae – A model for linking genomics with biodiversity. *Comp. Funct. Genomics* 5: 285–291. https://doi.org/10.1002/cfg.393

Pretz, C., Deanna, R., Eserman, L. & Simoes, A.R. 2020. An era of virtual seminars: From creating one to a list of ones to join. *Pl. Sci. Bull.* 66(2): 111–121.

Su, X., Wang, W., Yu, S., Zhang, C., Bekele, T.M. & Xia, F. 2016. Can academic conferences promote research collaboration? Pp. 231–232 in: *Proceedings of the 16th ACM/IEEE-CS on Joint Conference on Digital Libraries*. https://doi.org/10.1145/2910896.2925446

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DOI: https://doi.org/10.1002/tax.12412

First published as part of this issue. See online for details.