

The Hyacinthaceae: Chemistry, Pharmacology, Taxonomy and Ethnobotany

14 June 2012 - 15 June 2012

Workshop Report



The international workshop on The Hyacinthaceae: Chemistry, Pharmacology, Taxonomy and Ethnobotany was held from the 14th -15th June, 2012 at the University of Surrey in Guildford and organised by Professor Dulcie Mulholland of the Department of Chemistry in collaborations with partners from South Africa, Austria and Italy.

This multidisciplinary workshop brought together international experts working in the chemistry, horticulture, pharmacology, ethnobotany and taxonomy fields to discuss

their current research and to discuss recent developments in understanding the taxonomy of the Hyacinthaceae.

This international workshop attracted 26 participants from four continents (including 9 PhD students from the Netherlands, Austria and Surrey) and 13 nationalities were represented, including participants from the USA (North Carolina State University), Spain, Austria, Thailand, Malaysia, Italy, South Africa, Saudi Arabia, Kenya, Poland, the Netherlands, Iran and the United Kingdom. The workshop was opened by a speaker from Wisley Gardens, and Kew Gardens was also represented.

Workshop Aims

The taxonomy of the Hyacinthaceae has been in a state of upheaval since 2009 with the accepted plant classifications of APGII being thrown into disarray with the publication of a new controversial classification, APGIII, based on plastid DNA analysis, leading to the previously known Hyacinthaceae family being incorporated into the monocot family Asparagaceae in the order Asparagales.

The workshop aimed to bring together experts in the field to discuss this new classification, to discuss the horticultural and pharmacological developments in the field and to set up new collaborations.

Programme



The workshop attracted speakers and participants in the areas of horticulture, chemistry, ethnobotany, taxonomy and pharmacology and provided an excellent forum for discussing the new plant classifications and developments in all these areas. Much lively debate was held during the scientific and social events. The highlight of the social programme was an escorted behind the scenes tour of the green houses of Wisley Gardens.

The programme included the following events:

- Welcome by Professor Steve Williamson (DVC Research)
- Pre-workshop get-together on the Wednesday evening at the Boatman Pub in Guildford
- Dinner at the Withies in Compton

- Excursion to Wisley Gardens with lunch
- Fourteen scientific presentations (including 2 by Surrey PhD students)
- Poster session with 11 poster presentations
- Optional Post workshop social event at the Anchor, Wisley

Scientific Discussion

There were 14 presentations of which 5 were invited, with invited speakers coming from South Africa, Austria (2), Italy and the United Kingdom. These speakers were selected to cover the areas under discussion: taxonomy (2), ethnobotany (1), horticulture (1) and pharmacology (1). Chemistry input was provided by the Surrey group, with lectures by Dulcie Mulholland and 2 PhD students. Two lectures were presented by colleagues in BioSciences: a lecture on in silico pharmacological screening by Dr Nick Plant and one on anti-inflammatory screening of compounds from the Hyacinthaceae by Dr Alfred Thumser.

The new APGIII classification system generated much heated debate. The enormous present and future importance of the Hyacinthaceae in the horticulture industry was discussed. The progress in the phytochemical investigation of the Hyacinthaceae was evaluated with gaps in knowledge being highlighted for future investigation. The importance of the class of compounds known as iminosugars from the Hyacinthaceae was reviewed.

The posters presented by PhD students and some other delegates generated much discussion. One of the highlights of the session was a poster by an Austrian student describing colonisation routes of *Dipcadi* species based on DNA sequence analyses.

Outcomes

The workshop was a great success. The size of the meeting was ideal and all were able to interact scientifically and socially. One invited speaker said it was the most useful meeting he had ever attended.

There was discussion about a follow on meeting in 2 years either in Austria or the Rockefeller Centre in Bellagio, Italy.

The group at Surrey has benefitted by now having access to Wisley Gardens plant material and plant material from Madagascar through one of the Austrian groups.

Two Surrey PhD students are being provided with plant material for their studies from green houses in Austria.

A substantial review on the Phytochemistry and Ethnobotany of the Hyacinthaceae has been requested by Natural Products Reports (IF 9.79) and is being prepared in collaboration with the South African ethnobotanist. It will strengthen the Surrey group's position as the leading chemistry group working on the Hyacinthaceae. Feedback was extremely positive from all delegates, both for the scientific and social programmes.

The hospitality provided and organisation of the workshop were favourably commented on. Important links have been established and it has enabled scientists working in this area to meet and hopefully lead to closer collaborations in the future.

Acknowledgements

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Hyacinthaceae and Wisley Garden images courtesy of Neil Crouch.

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